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ABSTRACT

A review of the evolution and characteristics of the emerging land grant institutions during the period from the passing of the Morrill Act in 1862 until about 1890 refutes some popular misconceptions about these institutions. Land grant institutions added new subjects to the curriculum, provided higher education for the "industrial classes," and created a new concept of the function of college in society. The discussion notes early disappointments in the demand for the new education, the expectation that new land-grant colleges would be a major force for national development after the Civil War, and how what was initially a national policy evolved into a state responsibility. One misconception about land-grant institutions concerns their uniqueness. Although similar types of grants had long been used by all levels of government for many purposes--including the founding of educational institutions--the political forces that enacted the land-grant legislation were probably as much concerned with land policy as with educational policy. In the first quarter-century of their evolution, agricultural colleges were unable to make much impact on national development, nor was there a definitive profession or science of agriculture. (Contains approximately 335 endnotes and 115 bibliographic references.) (SW)

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MISCONCEPTIONS ABOUT THE EARLY LAND-GRANT COLLEGES

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INTRODUCTION

These essays have several inspirations. As one in lifetime association with several land-grant universities, I have been surprised to discover tardily both inaccuracies and distortions in what I thought I had reliably learned from experience. Understanding of the early land-grant colleges as commonly expressed by the media, by public persons, and even by campus-based academics leaves much to be desired when the facts are reexamined. The same can be said of what one hears overseas, particularly among developing-country observers who expostulate on what they would like to import, or think they are importing, from American higher education. Finally, the reading of all the institutional histories, one by one, gives even the academically seasoned reader the unmistakable warning, if not shock, that he has gone astray somewhere. Conventional wisdom does not fit. Something is awry.

Good histories of the land-grant college movement exist, as do individual institutional histories. Earle D. Ross published his superb _Democracy's College, the Land-Grant Movement in the Formative Stage_, almost 40 years ago. It covered the period to 1890. Edward D. Eddy, Jr., brought the story up to 1956 with his excellent and concise _Colleges for Our Land and Time_. Almost all of the land-grant colleges have their good, bad, or indifferent histories. Many new ones appeared as part of centennial celebrations in those institutions which were founded soon after the passage of the Morrill Act in 1862. Most of them tend to be too introspective to give proper evaluation of the land-grant movement as a whole.

Such individual institutional histories are the chief sources used here; so it should be clear that the attempt is not in any sense to correct the historians. Rather, the intention is to let them speak for themselves in the composite and thus correct our faulty memories, lapses, and misapprehensions. Institutional evolution before 1890 is taken as the general scope and terminus. Therefore, no attention has been given the histories of colleges founded after 1890 or so close to that date as to be meaningless for present purposes. Also, the few negro colleges affected by the Morrill Act of 1862 have been omitted, since the Second Morrill Act of 1890 was the well-spring of that broad category.

Perhaps history, like sworn testimony, should give the truth, the whole truth, and nothing but the truth; but the whole truth, even about as small a fraction of human experience as the land-grant colleges, is beyond the compass of six short essays. The inevitable result is truncated history. The objective is not the retelling of the whole land-grant college story, but only those parts which illuminate the common misunderstandings. Therefore, some readers must be disappointed by the absence of much intellectual, political, and social background which is generally relevant, and certainly interesting, but not directly related to the misconceptions.

While it provocatively points in the right direction, "demythologizing" is too strong a description of both the need and the intention. Yet it is predictable that some critics will think the striving for proper balance has now somehow gone too far the other way. That is an admitted danger which I have constantly kept in mind. The intention certainly is not to detract from the greatness of the land-grant universities which have emerged from such modest and difficult beginnings. My conviction, although not labored in the essays, is that the greatness is confirmed, now by another route, through this critical reexamination which was willing to go wherever the evidence led.

Finally, these essays have not been consciously written as revisionist history. If they are seen in that way, or in any other way which produces a challenge and response, the resulting reexamination will be eminently worthwhile anyway. The search has not been for new facts but for new insights about the old.

I gratefully acknowledge the immense help of two University of Illinois colleagues who read the manuscript in its entirety: David D. Henry, President Emeritus, and Earl W. Porter, Secretary of the Board of Trustees. The Rockefeller Foundation provided uninterrupted writing time in idyllic surroundings through its Scholar-in-Residence program in Bellagio, Italy.

Chapter 1

PAST AND PRESENT PERSPECTIVES

Superlatives have been written, justifiably, about the land-grant colleges. Their place in educational history, both American and worldwide, is secure. Perhaps it is precisely that fact which calls for another look at the relevant history. What is securely in place matters and ought to concern us. The passage of time has produced distortions and misconceptions, with concurrent neglect of matters of great significance, past and present. If the Morrill Act of 1862, as the founding impetus, is the greatest piece of federal educational legislation in our history, as has been properly said, then the accurate historical unfolding of it is extremely important.

What the land-grant colleges have become has obscured how they got there. What they are has been read backward as what they always were. What they are is merely what they were writ large. Far from it. That notion lies at the base of the misconceptions. Therefore, we must summarize the present status and chief characteristics of such colleges before we begin looking back to where the slippage in understanding has occurred.

Concern here is with the evolution until roughly 1890, or less than a quarter of the historical span of the land-grant system, and with some 30 emerging institutions. For perspective, it is important to know that the present total system of such institutions, blanketing the states, territories, and District of Columbia, supplies eight of the ten largest undergraduate campuses in the United States and enrolls more than a seventh of all university students. The institutions and the state universities together produce two out of every three doctoral degrees granted nationally. In other words, they are prime actors at both extremes: in mass education with its emphasis on "equal access," and in graduate training with its emphasis on research specialization. They hold the nation's major concentrations of such professional disciplines as agriculture, engineering, and family-life studies, with all the related biological, physical, and social sciences. The majority of them were and are combined with the state university, making for some of the largest and most comprehensive universities in the nation -- like California, Wisconsin, Illinois, Minnesota, Missouri, Ohio State, and Louisiana State. A minority are separated from and exist alongside the state university. Some of these have retained their agricultural and engineering, or at least scientific and technological, emphasis; but most in this category have also now become comprehensive in curricular and research interests. Very few retain names -- like "Agriculture and Mechanic Arts" -- which betray the original emphasis and limitations.

A useful summary of characteristics of the present land-grant universities has been given by a student of comparative university education. Calling the system "revolutionary in three respects," he put it succinctly: "It added subjects to the curriculum never before recognized as worthy of university education; it was designed to provide higher education and training for the 'industrial classes'; and it involved a new conception of the function of higher education in society."[1]

The humble colleges, hardly deserving originally to be called such, as distinguished from academies, became comprehensive universities in most states, as noted above, particularly if a state university did not already exist. In so becoming, they embraced not only the Morrill Act's specified subjects, but also many others which the classical institutions shunned as inappropriate.

The test tended to be social utility, the external demands of public and private employment, and the existence of, or need for, a body of knowledge transmissible to career-preparing youth. Therefore, unlike English and Continental universities, the land-grant universities broadly construed the university mission and readily accepted practical and applied fields, such as journalism, business administration, teacher education, and all the sciences and technologies. Professional education and the practicing professions were embodied in special schools paralleling or extending from the liberal arts. Sometimes a quality-threatening cost was paid for such comprehensiveness, with instruction in new fields which could be made to sound ridiculous, but a lasting revolutionary impact has indeed been made on the university curriculum.

The modern land-grant universities are an important part of the well-known American apparatus for mass education. Some, by practice and law, admit all high school graduates desiring to enroll, although the emerging pattern now involves some measure of student selectivity because other publicly-supported institutions (often of less prestige and narrower curricula but within the same state-wide system) can share the burden and offer alternate enrollment opportunities. The original objective has been attained -- some measure of open access to higher education for all who can and wish to profit from it -- thanks chiefly to the land-grant universities. Such institutions, until the arrival of the former teachers' colleges as new universities and the establishment of community colleges, took the public lead in democratizing higher education. They took students where they were, if a modest threshold had been crossed, and boasted of how many they admitted, not of how many they refused. They eventually, and now long since, realized the original goal of reaching the forgotten and neglected -- allegedly the sons, and later the daughters, of farmers and artisans, or any other members of that catch-all category called "industrial classes." (The meaning of that category will be explained later.) As in other innovations, this "revolution" brought critics who bemoaned the degradation of standards, the devaluation of degrees, and the threat to academic respectability. More could not be better, or as good. Perhaps some excesses preceded today's accepted balance, but whatever is to be said for the phenomenal opening up of higher educational opportunity to its present proportions, the land-grant institutions must be given a large share of the credit.

The other academic "revolution," involving a new conception of the function of higher education in society, presents perhaps the most distinctive characteristic of all. Consciously attached to location, supported by taxes paid by citizens of that state, beholden to state officials for the terms of survival, devoted to the application of university-held knowledge to practical problems, imbued with democratic ideals, the land-grant universities became responsive to their surroundings in an unprecedented way. They have consciously come to regard themselves as great public resources, too potent and too costly to be shared merely by residential students; hence the performance of myriad services for the public at large. Not only has the curriculum become sensitive to social need but research has followed the critical problems. The fierce aloofness from daily life is gone, the ivory tower abandoned. The university has become the servant and instrument of the state in a very real sense. It has become a developmental arm.

Like all universities, conscious of the dangers to autonomy from misguided earthly mortals, the land-grant institutions have arrived at a different balance in the always-uneasy relationship between higher education and the community, state, or society; or between the campus and a host of off-campus entities. The new conception is that the danger lies not in the relationship, but in whatever makes it ineffective -- i.e., ineffective in learning the truth or solving the problem. What is unacceptable is not the relationship; in fact, it is desired. What is unacceptable is that which guarantees that the relationship will be ineffective and unproductive. The distinction is between the virginal and the seminal. Thus the relationship between university and state can be put on grounds of mutuality of interest; and the controls can lie within the relationship, not in believing it is too earthy to risk. The interdigitation of university and other social institutions runs risks, but less than the alternative of studied separation. This ideal, with its attempted implementation, has become a dominant feature of the land-grant institutions. The acceptance or rejection of that ideal as a working hypothesis still separates institutions in a fundamental way. It must be readily recognized that the land-grant institutions are by no means the only ones, public or private, holding such convictions nowadays, but they were clearly the pioneers in the original development of this critical distinction.

It is the belief in the viability of such a relationship that undergirds the so-called "service" role of universities, a role so widely accepted now that few spokesmen for either public or private institutions would neglect to mention it as one of the major missions of their institutions. This is the origin of the famous trilogy: teaching, research, and service. Needless to say, different institutions interpret and apply it differently, some more with rhetoric than action, some contending merely that instruction and research are service. The land-grant institutions as a general class go much farther, holding that indirect contributions to society are insufficient, that the trickling down from educated graduates and from basic discovery is not enough. A direct contribution is also possible and desirable. It is another institutional mission -- call it third, second, or first -- coequal with instruction and research. Proof of the seriousness of this commitment are the large extension services, often with hundreds of employees for off-campus activities, and the laboratories and experiment stations which attack practical as well as basic problems. Indeed as so often in such historical evolution, some land-grant institutions are now aware of the danger of coming full circle, having become so service-oriented that sentiment mounts for "reform" by going back to the pristine virtues of social detachment. That warnings against the dangers of such a reversion are sometimes now felt necessary confirms how well established the service role has become, philosophically if not always in actual practice.

Indeed the case can be made that this new relation to state and society, based on mutual interdependence, is the most important of the land-grant college contributions to higher education. It is most often noted and emulated abroad. It most changed and repositioned higher education in America. Devoted from the beginning to pioneering in science and technology, and committed to egalitarianism among individuals and to service to society, the land-grant universities have become invaluable instruments for the discovery and application of practical knowledge to the needs of constituents and to the concerns of society. In this relationship, they have no equal as a class of institutions in America.

It is out of precisely these widely-recognized characteristics that many misconceptions have arisen. In rolling history back, the "essences" of today are attributed to yesterday. Time is the culprit. When it belatedly confers recognition and honor on a social movement, it rarely confers balancing restraint. In the euphoria of recognizing at last the indelible, seminal impact of the land-grant colleges, many undeserved attributions have been made to such colleges, and forces once potent but since spent have been forgotten or neglected. When the colleges' critics at last subsided, criticism lost its capacity to redress the balance. To this was added the understandable tendency to project the present characteristics of these colleges into the vacuum in our knowledge of their early years. They are "land grant," so that must be the magic wand that worked all the wonders. They are the largest public universities now, both individually and collectively, with pride in numbers educated rather than in numbers turned away; so they must have been popular, sought-after, and well-attended places from the beginning. They are developmental instruments of their states, hailed for their research and applied competency; so they must have been the mainsprings of the agricultural and industrial revolutions which swept America after the Civil War (and exporting them as models, even as they were in the beginning, might do the same for developing nations around the globe today). They are annually voted impressive sums of tax dollars by the states in return for public control and public service; so the states -- and not the nation -- from the beginning must have borne the brunt of supporting and controlling these public alternatives to private higher education. And on it goes. But no one of these conclusions is justified. Each should be examined further.

But, first, the background of the misconceptions needs further explanation. Such misunderstandings are widely held both at home and abroad. Perhaps that is natural. We all speak and write from what we intimately know. We have to be selective from what is within our heads or within our grasp by research; and the history of the early land-grant colleges is not household wisdom. Journalists, in one-dimensional time perspective, write about the colleges without the enrichment, the cautions, and the conditioning of institutional history. Public officials speak from what they see, not from what others before them saw. No less offenders are the occupants of the campuses themselves. They are no more likely to have read university history, including the history of their home institution, even if it is their home, than to have had courses in pedagogy or management, even if they teach and manage. While the occupants of land-grant campuses may be better informed on the present status and the internal dynamics of universities, with superior readiness to integrate and interpret history when fortuitously encountered, they enjoy no special freedom from the most common misconceptions.

Americans working in developing countries are often amazed at how familiar top officials and academic personnel are with the land-grant college philosophy, however hazy about the history. Political and educational leaders have been heard to expound the merits of these people's colleges, open to the heretofore neglected students, geared to societal needs, dedicated to both off-campus service and applied research, and instrumental in national development. Sometimes the ardor could put to shame even experienced spokesmen in America. Something about the American experiment has caught on, and the reasons are not far to seek: the obvious need for higher education on a non-elitist basis and for responsiveness to indigenous needs. Another appeal is the implicit devotion to location (to the named state in America, to the importing country abroad), taking it as the center for curriculum, for research, and for academic standards.

It is appealing that someone else broke away from standards expected in London and Paris or set in Oxford and Harvard. It is attractive that the "West was won" by small colleges which became large universities, that the farmers and artisans got something for themselves, and that sons and daughters of the lowly were raised up. All this has basic merit and also much historical validity, but misconceptions abound also.

The commonest overseas misconception is that these new-type institutions were the prime movers in the phenomenal agricultural and industrial development which made the United States the world power that it now is. A telescoping of past and present, ignoring that the first few decades were devoted to survival rather than service, contributes to that flattering image. Encapsulating the American dynamic for convenient importation has proved to be risky business for overseas admirers. Adoption of the land-grant philosophy -- the spirit without the material embodiments -- may be the most important and determining factor of all, but expectations are bound to be exaggerated if history is ignored and the non-educational infrastructure omitted from consideration.

The first misconception concerns the source of institutional uniqueness. It owes little to land grants, which were a means and not an end in themselves. Similar grants had long been used before, by all levels of government, including the national; and for a host of purposes, including the founding of universities. Also, the political forces which enacted the legislation were as much interested in land policy -- for settlement and internal improvements -- as educational policy; and many Congressmen would have denied any responsibility at all for the latter. The next chapter attempts to put the land-grant origins into balanced perspective.

It was paradoxical to have "people's colleges" which people did not patronize as intended, which were built for students who did not come as expected, and which were shaped for clienteles who could not be satisfied. Despite Jacksonian egalitariansim and the Jeffersonian heritage of education as the engine of democracy, the have-nots, as always, were not in position to be prime movers. Therefore, what was perceived as good for the lowly and neglected was urged by intellectual leaders and humanitarian reformers who had access to the levers of power, or sought it when federal grants provided incentive. But the resulting colleges ran ahead not only of secondary schools as student sources but also of any great popular desire to respond, even when student recruits of virtually any standard were welcomed. The results were, generally, insignificant initial enrollments; unclaimed scholarships; strenuous student recruitment; public disillusionment; and preparatory departments to assure the readiness which schools were not providing. Chapter III deals with these early disappointments in the demand for the new education which had been so assiduously extolled.

Another chapter, the fourth, examines the developmental misconception, which apparently derives from the uncritical assumption that universities with research and technological potency, plus a commitment to public service, would obviously make a tremendous impact on the post-Civil War nation so ripe for rural and urban development. But the two could never be joined. They existed decades apart. The agricultural apparatus which so impresses us today in the land-grant universities, with the world's most potent developmental package of research, instruction, and extension, linked from county seat to national capital, came too late. It missed the agricultural revolution attributed to it! In some respects, it was one of the results, not the cause, although the mutually reinforcing relationships strengthened all parts, once a take-off point was reached through the experiment station act of 1887. While that point also came too late for the initial "agricultural revolution," there have been later innovations, in hybrids and chemicals, with equal revolutionary impact; and the experts predict still more revolutions to follow.

This phenomenal present-day developmental capacity, typified in agriculture but partially duplicated in technology, is what has so intrigued the developing countries and set their sights for institutional importation and emulation. That is what they want to import, ascribing to it a causal relation to present-day American agriculture and industry. But a significant question arises: how much is transferrable when severed from its history, its incorporation of values, its reflection of lessons learned and rebuffs suffered, and its unseverable relation to a host of indigenous non-educational factors? In any case, all parties at home and abroad can benefit from a closer look at the tandem relationship which we have come faultily to attribute to the new colleges and national economic transformation.

Perhaps the greatest distortion in all the early land-grant educational history is the usual assignment of a major role to the states and a minor role to the nation, the reverse of the fact. At least, the proportionate state role in the early decades has been greatly exaggerated, however significant or dominant that role was destined to become later. Several factors have made the misconception readily tenable. The federal government has, in the main, denied that it had any responsibility for higher education; and it, even today, perpetuates that impression by avoiding general, as distinguished from categorical, aid. The colleges usually have the "state" connotation imbedded in their very names. They are fully state-controlled now, unlike the earlier practice. They are preponderantly supported now by state dollars, voted by state governments. But the beginning was very different. The colleges were originally intended as "national" colleges and as part of a national system, although operating responsibility was to be assumed by the states. No one knew in the beginning what proportion of funding would be state and what federal as time went on. Clearly the federal share proved to be less than originally anticipated by almost everyone. Indeed it was often contended that the land-grant procedure simply entrapped the states into unwanted monetary obligations. In any case, the states were most ingenious in putting off the evil day of resort to taxation with annual college appropriations. Self-support schemes for the colleges, loans, forced budget-cutting, new appeals to the federal government -- all such alternatives had to be exhausted in most of the states before a pattern of systematic annual financial support was assumed. These are the themes which Chapter V pursues on how initial national policy led to eventual state responsibility, an important transformation which has been inadequately understood.

Finally, beyond these misconceptions, there are lapses and areas of neglect or underestimation. One of these is the obverse of the theme dealt with above: the original and still-lingering national aspects of the colleges which eventually became state-controlled and state-supported. The concept of a national system, or national network, of colleges was dominant in the beginning and has important on-going influences down to the present. The national policy, under the nationalizing influences of the Civil War, committing the nation's greatest source of wealth (land) to the establishment of state-based and state-serving colleges, was a wise and fortunate alternative to a single national university so long but unsuccessfully sought. This development was fortuitous but, in another sense, adeptly "planned" by perpetual response and adjustment to the upwelling needs in each state. This national role in developing state-based institutions is covered in the last chapter, which also develops the theme that perhaps the greatest of all land-grant college contributions to higher education has been the incremental state-by-state up-grading, starting from meager beginnings and moving up, opportunity by opportunity, to comprehensive universities of leading stature. From small beginnings, great things grew. The best was unattainable, but better, simply better, could lead to better yet, with phenomenal cumulative results in a growing new country. Overall, that is the best of the land-grant college story.

In retelling those parts of the history in serious need of balanced reconsideration, we must start where it all began, with the Morrill Act of 1862. Some cryptic reminders will suffice. It was a second attempt, the first having been vetoed by President Buchanan on the ground that it was not within the constitutional province of the national government. Adoption in the midst of war has a noble connotation, but movement was also inspired by the rising national spirit and secessionist departure of the states-rights Congressmen from the House and Senate. The Act, so simple yet so laden with phrases which were to provide both strong impetus and wide latitude, must be reiterated at its core. It provided large land grants, proportional to Congressional representation, to each state for "the endowment, support and maintenance of at least one college where the leading object shall be without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Every phrase was destined to academic immortality -- not because of unmistakable clarity but because of the latitude granted the states within a clear, if minimal, national purpose.

Chapter II

THE LAND GRANT MISCONCEPTION

The use of land grants was not the distinguishing characteristic of the so-called land-grant colleges, despite the inseparable name. Nor was the practice by any means novel. Indeed it was so well established that Senator Justin Morrill and his hundreds of intellectual allies were merely making a special application in 1862. That the impact was revolutionary in the end derived from a host of other considerations, not from a new social invention whose parentage has to be debated.

For centuries, the Crown in England had made grants of land for what was conceived to be the public good -- for settlement, for churches, and for help to the Empire Loyalists -- and the practice carried over to the earliest days of the American colonies. England used it for colonization itself, and the colonists used it for developmental stimulus, especially for settlement and revenue. In fact, within 12 years of the founding of Jamestown, the Virginia Company made a grant of 10,000 acres of land for the foundation of a hoped-for university.[1] Besides this cultural heritage, natural conditions were also determining. A similar plethora of land produced similar land-granting policies in New Spain and in Canada.[2]

After the American Revolution, when the states gave up their Western lands to the new national government, the riches of land became a most attractive source of "endowing" public projects. Aid for Revolutionary soldiers tapped this source, but the chief beneficiary was internal development: canals, marsh reclamation, railroads, and schools. What better than schools for both economics and politics, development and democracy, profits and ideals? Again, the presence of abundant, cheap land dictated public policy, whether state or federal. The colonies and states preceded the federal government in this practice. Harvard, Yale, and William and Mary all received land or receipts therefrom. The State of Vermont granted 23,000 acres to Dartmouth College, which was adjacent (i.e., in New Hampshire) but not even within the state boundaries. In both 1792 and 1794, the University of Vermont named an agent and sent a memorial to seek a township grant from another alien source -- the New York Legislature.[3] In 1834 the Michigan Territorial Legislature earmarked 72 square miles of land, or about 50,000 acres for a new university.[4] Following this trend, 6,000 petitioners asked New York for aid to agricultural education in 1838; and when rebuffed, they joined in setting a new trend. They turned increasingly to the federal government.[5]

Nationwide, the early history of public higher education in America is inextricably linked with the history of public lands, with decades of precedent before the Morrill Act of 1862. The use of land for educational endowments by the nation seems first to have been proposed by Colonel Thomas Pickering in 1783, with incorporation into the federal land act of 1785 and the Northwest Ordinance of 1787, with its famous pledge that "schools and the means of education shall forever be encouraged."[6] Implementation of these acts established the precedent of giving the sixteenth section of public land in each township for public schools and two entire townships in each newly admitted state for a "seminary of learning." Only five states became exceptions: Maine, Kentucky, Vermont, and West Virginia because they were carved out of the thirteen original states rather than out of the public domain, and Texas because it retained all public land titles within its borders.[7] By the Civil War, and hence two years before the Land

Grant Act, 17 states had received two townships each and spawned 15 state universities.[8] The land-granting act of 1862, therefore, while more generous and influential, through the nationwide impact of the conditions attached, certainly was not without extensive precedent of high and common visibility. That is why the Governor of Arkansas in 1843 could say that the state had enough granted land to support both schools and a university.[9] That is why the organization of each house in the first Wisconsin Legislature after statehood included a "Committee on University and University Lands."[10]

However, the real meaning of "land grant" as applied to the new colleges was rather different from the common image held then and now. The federal government did not create great landed estates in the middle of which college buildings could arise, nor did conditions then permit the long-term holding of, or investment in, land as a permanent endowment. Land was an at-hand vehicle, direct or as security, in lieu of monetary appropriations. The terms made the so-called "land grant" sometimes hundreds, or conceivably thousands, of miles from the institution to be undergirded; and sometimes not land at all, but scrip, or land money -- paper which could be used as currency to purchase land or to sell to those who would purchase. Indeed more than four times as many scrip acres as land acres were donated to the states. Twenty-seven states received scrip in contrast to only 11 states in which sufficient public land remained for internal land selection.[11] The land as endowment was an illusion anyway. Its quick dissipation as real estate (or scrip evidence thereof) was the only way to launch the fledgling colleges. The college founding fathers often defended themselves against charges of lax, improvident, and shortsighted management on the convincing ground that they had to establish colleges for the present generation, not interminably defer for an uncertain millennium. Human cussedness in managing the granted lands has had its critical historians, with justification, but objective conditions were the villains, too. The tremendous volume of land and insufficient demand for it created a depressed market. The Homestead Act reduced the need of settlers for an alternative such as land paper. The absence of a federal offer of new land at public sale after the Civil War created a scarcity in the only category open to college scrip entry; and advertised sales with sealed bids simply brought the going market rate, which seems scandalous only in retrospect.[12] As a result, most of the land-grant colleges soon became colleges without land. They had only the modest proceeds as an endowment and only the interest thereon for operating purposes.

To complicate matters further, the real public debate was not over education, but over access to land for whatever purpose. The Public Land Commissioner was later to testify cynically that thousands of schemes had been advanced for "starting goat-farms, dairies, voyages around the earth, trips of exploration to the Arctic regions, schools of a hundred varieties..."[13] With land in the ascendancy, education often was a mere legitimizing factor. The East wanted the federal land gift since the original states had not received seminary funds, and thus voted for the Morrill Act to help equalize East-West competition and "as a partial compensation to the old states for the lavish homestead privileges within the new."[14] Citizens in Minnesota objected to having pine and farm lands chosen for universities because there were "higher" uses.[15] When federal grants did become available in 1862, many state legislatures did nothing but meet the pro forma requirements to get the land (or scrip), leaving the educational purpose, beyond titles in statutes, wholly neglected for years and sometimes decades. The unseemly emphasis on land as mere largess produced such an interinstitutional scramble in Ohio, among both public and private colleges, that it has been dubbed "Ohio's great land grant sweepstakes."[16] In Virginia, it was the "War of the Colleges."[17] Indeed the Morrill Act of 1862 was, then, a variation on a familiar theme or merely the latest declaration of federal land policy -- so much so that the West feared it would defeat the purposes of the Homestead Act and the educational merits were mainly ignored by newspapers and agricultural journals.[18]

The conclusion seems clear, therefore, that if land grants were not new as a device for educational support, neither were they resorted to for purely educational reasons. They were a political means to an educational end, through an alliance with varied interests beyond education. Pioneer settlement, land speculation, economic development, and educational reform could and did go hand-in-hand.

The use of the land-grant technique had become so pervasive before 1862 that turning to the federal government for educational help, as distinguished from state support, had become a logical fashion. As an alert Representative and Senator, Justin Morrill did not have to await a blinding vision which would make him The First, as he sometimes implied and as myth-makers came to believe. He had only to heed his eyes and ears. The climate and soil were so hospitable that it is of little consequence which seed sprouted first.

The accumulated inheritance which motivated Morrill and a host of reformers and institutional founders spanned the nation's history. A nationwide concern, even using federal land as aid, was expressed repeatedly by George Washington, both as a general in the field, when his soldiers were damaging colleges where encamped, and as the President proposing legislation to Congress.[19] Benjamin Franklin hammered away on behalf of practical education. Samuel Knox of Baltimore as early as 1799 proposed a progressive system for moving the best students from village to county, to state colleges, and then to a national university.[20] After the War of 1812, internal development at national expense became popular. In 1824, the territorial council of Florida asked for more land for a university, beyond the seminary grants, pointing out that Congress had such beneficent power.[21] Also in the 1820's, Theodore Sedgwick of Massachusetts proposed educational reform of exactly the kind later embodied in the land-grant colleges (the Massachusetts Agriculture College adopted it 40 years later).[22] In fact, that whole decade prompted one historian to write: "the free school, the free academy, and the state university were definitely on the way to realization."[23] The second quarter of the century was a great awakening of humanitarian concerns and reforms of all kinds, including education at all levels. Intellectuals like William Ellery Channing were connecting land and education, so that by the 1840's Congress was being widely approached for landed assistance. President Partridge of Norwich University proposed in 1841 that $40,000,000 from the sale of public land be distributed to the states for new or remodeled institutions in the practical arts, including agriculture and engineering.[24] In 1850 Bella Hubbard of Michigan proposed an agriculturally oriented program which led the legislature to petition Congress for 350,000 acres of federal land.[25] In a novel personal plea for public good, a father and son team, in California, signing themselves as "Warren and Son," petitioned Congress through the California and Oregon senators in 1853 for an agricultural college endowment "for this State, now, and in preference over any and every State in the Union," the immodesty flowing from the alleged capacity of California to feed the nation.[26]

Jonathan Baldwin Turner, reformer extraordinary, was influencing all within sound of his voice and reach of his pen. As a result, the Illinois legislature directed its representatives in Congress in 1856 to work for a law to give land of not less than $500,000 value to each state for "the liberal endowment of a system of industrial universities."[27] Minnesota not only asked the federal government to change Ft. Snelling from "a school for the soldier into a school for the civilian," but sent a flood of petitions to the territorial delegate, seeking land from Congress.[28] Likewise, the first legislative session under Iowa statehood memorialized Congress in 1848 for the donation of the Ft. Atkinson buildings and two sections of land for an agricultural branch of the state university.[29] A decade later, when the Iowa Agricultural College was established, it was "with the definite expectation of federal aid."[30] Michigan repeated this pattern and asked for Congressional land aid in 1850, but proceeded nonetheless to the creation of its agricultural college, with canny legislative acceptance (1859) in advance of "any such grant or donation of lands... now made or which may hereafter be made by Congress..."[31] The pervasive thinking among progressive farmers moved in the same direction, as shown by Benjamin Thompson's will of 1856, in New Hampshire, which suggested "the propriety of applying to the Congress... for a grant of land in aid of this object," the founding of an agricultural school.[32]

Finally, President Abraham Lincoln's role in the founding of the land-grant colleges is confirmation that land was everything, that national aid was in the air, and that the linking of the two was not surprising if not inevitable. His party's platform of 1860 favored land grants for homesteads and railroads, but said nothing about education; and Lincoln did not turn a hand for the plans of Morrill, Turner, and all the others. He endorsed but did not promote. He benignly watched the unfolding national policy and put his signature to the product without recorded comment. It fitted his free-soil ideas of national aid for a host of purposes, with public land as the source. Indeed, as a product of his time and place, Lincoln was said to have favored land grants "for all purposes and under any available conditions."[33]

As some of these examples already show, the burgeoning precedents and pressures moved steadily in a new direction -- toward practical education for the "industrial masses." The conclusion reached by President Williams of Michigan Agricultural College was inevitable: if land could be used, as it had been so long, to support classical and professional education, via the seminary grants, why not "for the promotion of education bearing directly on the industrial and agricultural pursuits of the people"?[34] A host of county and state agricultural societies -- said to exceed 900 before the Civil War -- had already taken up the cry, and at least 40 agricultural papers and magazines spread the word.[35] The states themselves were becoming convinced: Pennsylvania, Michigan, and Maryland established their own agricultural schools or colleges in 1854-56.

It is clear that when Justin Morrill asked Congress to look into the matter (1855) and to do something about it (1857 and 1862), he had plenty of prompting and precedent. His musing in his old age that he could recall neither help nor hint could have made sense only in relation to sharp specifics. Prior to his first bill, more than 60,000,000 acres had been set aside for common schools and 4,000,000 had been granted 15 states for the endowment of state universities.[36] In fact, 21 state universities and colleges had opened before the Civil War and some agricultural/engineering colleges already existed, to say nothing of the national institutions at West Point and Annapolis.[37] Morrill was a member of the board of trustees of Norwich University (whose president was a vocal land-grant advocate), he corresponded with educaitonal reformers, and he was a delegate to the 1856 meeting of the U.S. Agricultural Society, which specifically advocated land grants for agricultural education in each state (essentially the "Turner Plan" from Illinois).[38] Indeed the senator had precedent even for his acclaimed formula of grants to the states in proportion to population, or Congressional representation, in preference to less democratic means. The Dorthea Dix plan for the care of the indigent insane had already suggested the general pattern, despite President Pierce's veto.[39]

All this is not to deny Senator Morrill's monumental contribution, but rather to point it in another direction. He did not sire the land-grant idea, even for colleges, and he did not confer on the nation an intellectual *tour de force* of his own. Rather, he had the perspicacity to put together a timely political alliance which would use a tried-and-true support mechanism for something new in higher education, a new kind for a neglected clientele, with at least one institution to be established, within a fixed time, in and at the discretion of each state. It was this new purpose, not the old means, which was and is important. No simple label accurately describes the new colleges but many -- "new," "scientific," "applied," or "national" -- would have given posterity a better historical sense than "land grant," which in fact had a role in the origins of *all* levels of education in America. Morrill's efforts not only shaped many new institutions but became the turning point for many existing ones, sometimes with literal financial salvation and always with programmatic reform. He established a national policy, permissive though it was, for a national system of state-based institutions which could, and eventually did, enhance student access, instruct also in the practical arts, and generate technical knowledge for useful application. That *was* something new.

In the light of experience, it is not surprising that the land-grant approach should have been challenged. Some Western states with much public land were neither impressed nor enriched by the federal largess and attacked the Congressional or population basis for distribution.[40] More impartial observers have also criticized that basis as unwise, particularly in comparison with outright gift money, which might have avoided inequities among the richer and poorer, and older and newer, states, and prevented the "throwing away" proclivities which the need for immediate action generated.[41] This wisdom of hindsight tends to overlook the gross political imbalance between the settled issue of giving land and the unsettled issue of taxation. Likewise, it is not surprising that legislation which was so intertwined with non-educational considerations should leave an impact beyond education. It established the principle that income from public lands, even in the newer states which wanted sovereign control over all internal lands, should be shared nationally in proportion to state representation in Congress, reiterating the significant principle set by the Virginia cession of its western lands under the Articles of Confederation. Also, it was "a strong step towards a more liberal interpretation of the constitutional powers of the federal government."[42] The clash of sectional battle masked, as well as bred, great nationalizing changes.

These seeds of a new federal-state partnership might have foretold the future greatness of the colleges, but there were no such expectations at the time. Horace Greeley would have been pleased if no more than five states had been persuaded to accept the new challenge, and his newspaper did not even mention the Morrill Act in its recital of the achievements of that Congressional session.[43] Jonathan Baldwin Turner said the act came ten years earlier than he expected,[44] and another contemporary, while thinking the grants to the states came "far in advance of their readiness to use them," nevertheless foresaw "the immense power" lying dormant, ready to unfold.[45] But the most prophetic comment had already been made by a beleagured college president awaiting land-grant rescue: "The acorn we bury to-day will not branch into a majestic oak to-morrow."[46]

Chapter III

THE STUDENT DEMAND MISCONCEPTION

Land-grant colleges were not born of student demand. Nothing did more *eventually* for mass or democratized education, but such colleges did little initially. It took them 30 years, or 50, depending on one's standard for earning entitlement to what we now honor. They were committed, they opened their doors, and they waited. Their early contribution was the ardent conviction and the provision of opportunity, the expectation and the ideal, not the actual achievement. In retrospect, this falling short of the florid founding rhetoric is not surprising: education was being extended from the top down, not the reverse. The new colleges were ahead of their times, not the slaves of popular demand.

Impetus for the new colleges came from reformers, not practitioners -- and for an ideal, not an established need. It came from the Horace Greeleys, the Jonathan Baldwin Turners, the Ezra Cornells, the John Purdues, and others of conscience and means. It came from the ones who were doing good for the less fortunate, the agricultural societies which were often more "society" than "agriculture," and the uplifters who were right about "what ought to be" but wrong about public agreement with them. It is relevant to note that the Lockport Mechanics' Mutual Protection, No. 1, which played a role in starting Cornell, numbered Horace Greeley, William H. Seward, Martin Van Buren, and Thurlow Weed among its members.[1] If man was perfectible, he had much to perfect in the 1840's and '50's -- the treatment of women, the care of the insane, the freeing of the slaves, temperance, peace, and the improvement of human institutions. Everbody had a mission, often spelled with a capital M.[2]

Professor, preacher, and philosopher, Jonathan Baldwin Turner was the very model of the land-grant college advocate: he was ardently involved in the whole gamut of human reform efforts, with education only a prime target because of its presumed multiplying effects. None of this, it should be understood, is to deny that the activists did reflect what was "in the air" -- Jacksonian democracy, dissatisfaction with classical education, and a growing belief in education as a lever for advancement.

The ideal of what we would now call "equal access" for youth of all stations in life -- and even "compensatory education" where needed -- was firmly held as a reform goal. The new colleges were to be democratic instruments with a popular appeal, set apart from the elitist and classical institutions, although Senator Morrill cunningly suggested that all would gain because surely "no true American will ever prize his own education higher because there may be others who cannot get it."[3] The People's College Association wanted a New York institution which would be universal because no community could afford "any portion of its youth to grow up in ignorance." Ezra Cornell gave funds to the same end, so as to "give the farmers' sons.... an institution worthy of the Empire State."[4] In 1851, a Minnesota newspaper urged an institution which would cause no youth, boy or girl, to leave the territory for an education befitting his or her class.[5] Indigent students were a special object of attention, with all kinds of special legislation, scholarships, and work programs. Unprepared students were given "prep" departments. The culture which began producing the Horatio Alger books was expressing itself. The final argument which brought Iowa State College into being in 1858 neatly challenged the legislators to divide on whether they favored the privileged few or equal education for all; and the favorable action was lauded as answering "the great want so often felt by the sons of toil...the most lowly and obscure of farmer's sons."[6] Such claims were actually extended also to sons of whatever social parentage, and sometimes, more spottily, to daughters. In other words, evidence of the equalitarian intention is mountainous, but the point here is that this noble ideal remained just that -- an ideal -- for decades, with laborious progress toward its realization. Honors for success would eventually have to be shared with the maturing public school system, the normal schools, the broadened employment opportunities for high skills, and the reduction of the slack between ideal and popular action upon it.

Unfortunately for the ideal, it struck the national scene at the worst possible time. College enrollments were generally declining. Existing colleges were in a period of dormancy, contrary to the common impression that they charged onward and upward evermore. Only 50,000 students were enrolled nationwide in 1870, or 1.7% of the 18-21 year-olds.[7] In 1840, the proportion of college students to the entire population was 1 to 1,540; in 1860, it was 1 to 2,012.[8] The total supply proved less elastic than assumed: when the Ohio Agricultural and Mechanical College was founded, Miami University (Ohio) closed its collegiate department for want of enrollment, and resumed only a dozen years later. The opening of Cincinnati University had been an institutional depressant in Ohio, too.[9] Harvard wanted its Lawrence Scientific School merged with the Massachusetts Institute of Technology because of its misfit and its lack of students.[10] In fact, some of the new colleges consciously opted for "buying" students instead of paying professors (some salaries were actually cut).

Impediments ranged from flamboyant frontier hostility to widespread public apathy. Something remained from the early Illinois legislator's boast that he was "born in a briar thicket, rocked in hog trough and had never had his genius cramped by the pestilential air of a college."[11] Eastern philanthropy failed to bail out the frontier in support of the new institution in California, because the chief fund raiser "could not convince his prospects that the streets of California were not paved with gold."[12] The opinion of the majority of Texans "regarding this experiment in high-toned farming and mechanics was not merely that it was silly, but a piece of Yankee-instigated silliness."[13] "Massive statewide indifference," as it was called in Ohio, seems to have greeted both the seminary grants and the 1862 grants, in contrast to the expected educational demand.[14] In many states, land trafficking was the only early result; sales were slow; proceeds were put to other uses; and guardianship bore none of the marks of an aroused education-minded citizenry. For example, it took Louisiana 30 years to put the seminary lands on the market and Ohio 11 years to found the institution contemplated by the Morrill Act.[15] Likewise, it took California 20 years to consummate the constitutional provision for higher education and Nevada 10 years.[16] Even as late as the Hatch Act of 1887 and as great as the agricultural need, Florida indifferently accepted the largess without public interest, prior planning, or enthusiasm.[17] A West Virginia report persists that in the common practice of treating the new colleges as "internal improvements" to be passed around for political and economic balance, "Moundsville preferred the state penitentiary to the state land-grant college."[18] There can be no doubt that Tuscon, Arizona, got an educational "sop...that nobody asked for," while Phoenix got the asylum plus $100,000, and Prescott retained the capital; and that New Hampshire got a rejuvenated and relocated college from a donor who was literally labeled of "unsound mind," with "sense enough" to accumulate a fortune but without sense enough to preserve it.[19] A Vermont newspaper bluntly said the Land-Grant Act was imposed, not needed; and a similar attitude, albeit diminished, plagued several of the colleges, even after establishment, with threats of closing or selling to the highest bidder.[20]

One of the major troubles was that this new land-driven reform outran the public school system: educational underpinnings were woefully inadequate. Many of the states, "bribed" into hasty college expansion, as some critics said, had few academies and public high schools. Arkansas had one public high school.[21] Sparsely-settled states in the West were hardest hit. Arizona began its land-grant college before any high school existed.[22] Nevada had only one in 1872 and two when the university opened.[23] As a result, the fledgling institution gave nothing but preparatory work, with even some grammar-school work thrown in.[24] This resort to "prep" work as the next-best solution became almost universal practice, and while a mix of collegiate and preparatory programs normally prevailed, the "prep" students outnumbered the collegiate in many colleges for most of their early history. In the state which nurtured the unschooled President who signed the Morrill Act (Illinois) high schools sent only 156 students to the new land-grant institution over the entire period of 1876-83 and three-quarters of them came from the surrounding county.[25] At the beginning, California had only seven counties out of 52 that provided college preparation in high school.[26] In Georgia all institutions competed annually for 350 high school graduates, half of whom would quit regardless.[27] Critics called the University of Wisconsin "a High School for the village of Madison."[28] Pennsylvania State University typified the confusion: it began with the name, "Farmers' High School," although clearly intended to be collegiate, but immediately found that "a rather large percentage of the student body" would have to be boys recruited under age 16 into the Preparatory Department, which had a grammar-school component as well as collegiate "prep."[29] Not surprisingly, President Folwell of Minnesota found his academic aspirations frustrated by "the high school matter."[30]

It was truly a national problem. After the turn of the century, even Harvard and Yale were admitting sub-standard students to make up their deficiencies, and Princeton had 301 conditionals out of 360 freshmen as late as 1908.[31] A survey in 1889 among 400 institutions showed that only 65 had freed themselves from preparatory work, and half of the state universities still offered it.[32] Unlike many other land-grant colleges, Michigan Agricultural College prospered at the outset and could be more selective, but even so, selective only from the common-school crop.[33] Where high schools existed, it was presumed that their good graduates would go into the professions or certainly eschew scientific agriculture. Not until the national problem was really ameliorated did the new colleges have the student "demand" to which to respond. In fact, pragmatic as they were, the colleges themselves became much involved in the solution, setting expectations, training teachers, and serving as the apex of the state educational systems. This stimulation of educational growth from the top down was a major contribution in many states, but in others the college became so trapped in expedient low standards that it was a school competitor and follower, rather than a collaborator and leader.

The true state of affairs is best shown by an examination of the success of the new colleges in reaching the number and kind of students intended. Disappointing enrollment was foretold by the experience of the state institutions which existed before the Morrill Act. Vermont's enrollment, not counting medicine, had just passed 100 in a half century.[34] Wisconsin had twice reached treble that number in the 1850's (with about half "preps" and "specials") but it was still smaller than the state's private colleges, like Lawrence.[35] Missouri's drop after 1854 created understandable concern because the salaries of president and faculty were tied to fees collected, with the President getting

$5 per capita beyond 80 students![36] In 1866, not a single student appeared during the first week of the opening term, a fact commonly attributed to the operation of a county fair in the neighborhood. More, but less than 40, did appear in the second week.[37]

Even a start which was none too good was rarely sustained. At New Hampshire, after a peak enrollment of 33 in the first decade, literally no new registrant showed up for the fall of 1877 and the decade ended exactly where it began, with 10 enrolled.[38] Pennsylvania's land-grant college began in 1859 with "capacity attendance" because 100 filled the facilities, but a drop to 22 occurred in 1869, and it took almost 30 years for 150 to be reached.[39] With three presidents before it opened for students, Massachusetts had the same experience: drastic ups and downs, with 20 years required to get the enrollment back to the modest 1870 level. A presidential remedy of free tuition and four-year scholarships generated a "charity class" of 88 in 1878, instead of the 23 previously, but even that shrank in four years to "but a baker's dozen" as tuition was reinstated.[40] When the State Agricultural College of Connecticut opened in 1881, it had 12 "on the ground or on the way."[41] In its first 20 years, Nevada never exceeded 35 and not one came from the most populous area of Reno-Carson City; therefore, the college site was moved to Reno and 56 students responded, aged from 14 to 21 (and in a reversal, only two came from the region of the previous site).[42] A decade after the Civil War, five institutions in Baltimore had "an enrollment at least double that of the little farmer's College" (University of Maryland), which in the eight postwar years had five presidents under whom six students actually were graduated.[43] The Florida land-grant institution had a particularly difficult time. The 38 who began in 1884 were all in the preparatory department, and only 57 were in college classes as late as 1898.[44]

Some colleges did better -- indeed well by national comparisons of the time -- but the best had monumental troubles. Of all, Cornell got off to the best beginning, with the largest entering class ever admitted in the U.S. -- 412, or twice the lodging space. After a quick crescendo to 600 in total, all classes added to only 312 in 1882, or about half the peak and less than the beginning; and President White came back from his diplomatic post in Germany because of trustee concern about declining enrollment.[45] Minnesota had 300 students in 1870, although only half were in the college department, and after the number rose to 384, it dropped in four years to 223.[46] California's enrollment declined a third in five years after 1878, down to 215, but then came a remarkable reversal, with close to 500 by the end of the next five years and four times that figure by 1898.[47] Illinois did not attract the "hundreds" its head expected, but it began with about 50 (77 by the year's end and mostly from the local county) and moved rapidly in four years to 400.[48] Generally speaking, the separated "agricultural and mechanical arts colleges," distinct from a state university in the same state, had some special drawing power. The special fervor was specially concentrated. They seemed to tap an unreached constituency, at least initially, although the mixture of pre-college work and sub-freshman enrollment makes comparison uncertain. Also, auspicious beginnings were often not sustained. Although Kansas State never reached 125 in any of its first ten years, it was above 200 in 1878 and progressed with remarkable steadiness to more than 500 by 1890.[49] Texas A & M moved in the same period from 106 to 176.[50] Michigan Agricultural College exceeded its room capacity of 100 by accretions throughout the first year and compared favorably with the national collegiate average of about 120; but this "overcrowding" lasted only two years, and the president who doubled the enrollment to 340 in the 1880's still fell far short of his intended goal of 500.[51] When other colleges were really getting to a take-off point about 1890, Michigan Agricultural College's enrollment was precipitating the Board's 1895 study of "the seeming lack of popularity of our College."[52] Iowa State Agricultural College also had the appearance of ample students from the outset, since 22 were initially turned away for lack of rooms. But the 93 freshmen and 80 preparatory students who were admitted comprised a mix of which the collegiate part immediately began to decline; and the efforts of two decades added not much more than 100 to the 192 who were enrolled in 1870. The agricultural malcontents seemed vindicated in linking college deficiencies and declining enrollment in 1883.[53]

Had there been a groundswell of popular or student demand, the colleges would not have resorted to so many strategems to entice students. Necessity did indeed breed invention. North Carolina Agricultural College illustrates: each county was given as many tuition-free students as it had members in the House of Representatives; advertising for students was a budgeted item from the beginning; newspaper articles were supplied; President and faculty solicited students in many counties; and eventually a special "canvasser" was authorized and the trustees provided a free month's board to any student who would bring in another.[54] Wyoming once trumpeted through the Nation that it offered both collegiate work and a "climate unsurpassed for throat and lung troubles."[55] Without consulting President White, Cornell's financial patron and namesake advertised its opening in 300 newspapers.[56] A new president at Missouri sent the faculty out to "sell" the university, which also printed 1,500 copies of a double-sized catalog, and distributed over 5,000 circulars, all without appreciable result; and Maryland hoped to swell its enrollment by becoming a preparatory school for West Point and Annapolis.[57] County, state, and international fairs provided another forum. The Kansas State historian provides a fitting summary for all: "Some of the efforts made by the Faculty to populate the empty school benches seem almost incredible at the present time."[58]

The most effective devices were the resort to preparatory departments, as noted above, and a wide variety of scholarships, although the first proved embarrassing for university or college pretensions and the second "bought" far less than anticipated. The gains from the preparatory programs were significant, providing education where none otherwise existed, but that certainly was not anticipated as the mission of these new colleges nor as the source of students. Secondary education was drawn out and lifted up, but the college/university ideal suffered. The resulting disparities are illustrated in Arkansas and West Virginia. When President Hill boasted that Arkansas' enrollment in 1879-80 was fourth largest in the nation, he counted 300 preparatory students in his total of 450.[59] When West Virginia completed its first year with 184 enrolled, actually only six were in the College proper, with 115 in the preparatory department and 63 in the primary.[60] These and all the other examples which could be drawn from the times -- and from other types of institutions -- show that student demand was in short supply.

Unclaimed scholarships make the same point. Available awards sometimes outran the total number of students. In Arkansas in 1873, only a third of the potential awards were taken up.[61] Nationwide, the financial incentives ranged from certain fee waivers, to free tuition, and on to full-support "beneficiaries." For many years, the incipient Louisiana State University gave $400 a year to poor boys and charged the same to others. At its postwar opening in 1865, there were 17 beneficiaries and 91 paying students; but this ratio was soon reversed -- with adequate reason, given the postwar economic status of the students -- so that by 1873, there were five times as many who received as who paid (117 to 23). When Reconstruction politics, spawning dual governments, brought the "charity" system to an end in that year, only 31 boys appeared to enroll in the fall.[62] Similarly, in both Florida and Arkansas, the supply of tuition-free beneficiaries exceeded demand.[63] In the Virginia Agricultural and Mechanical College, one student "drifted" in on the opening day; and since he was without scholarship, he was promptly voted one.[64] After Rutgers persuaded the legislature to vote more scholarships at $174 each, with state reimbursement when billed, the solons reneged for a dozen years and settlement came in the courts only years later.[65] Further illustrating the perils of enticing students via scholarships, the Rhode Island State Board of Agriculture withheld its support because so few beneficiaries were going into agriculture.[66] Before 1880, New Hampshire's enrollment never exceeded 33, but 34 scholarships were available for in-state students.[67] With this chronic shortage, academic lobbying in Concord put emphasis on persuading legislators, with their useful "connections," to dragoon students. There were the days when the New Hampshire land-grant funds were assigned to Dartmouth College, which had promised, as had other private colleges seeking federal funds in other states, to devote half of the proceeds to "gratuitous instruction of pupils" selected under state auspices.[68]

Commonest of all inducements was the leverage given various officials through tuition-free awards for students nominated with or without standards -- under quotas for board members or so many awards per county or legislative district, to be chosen by the commissioners, the school superintendents (with and without examinations), or the legislators. Also, some categories of students were made automatic recipients of aid, such as ministers and ministry students at the University of Georgia, which later added maimed Confederate soldiers.[69]

What all this frenetic effort yielded in enrollment, as seen above, shows that the ideal of a welcome open sesame for neglected students was tardy in its realization and that even assiduous student recruiting brought disappointing results until the last decade of the century -- and until other factors extended the already open arms of the new land-grant colleges and universities. Even the successes were marred by enticement at sub-collegiate levels and by severe wastage, if degree attainment is taken as the criterion. Of the enrollees in the first 15 years at Arkansas, roughly one in 15 was graduated.[70] President Fernald of the University of Maine looked back and ruminated that many young men merely wanted "to add one or two years to their school life."[71]

There is a brighter side, however. When the ideal did blossom, it did so magnificently, and these new institutions were often pace-setters. They initially suffered from what ailed all higher education. In 1872 Harvard topped the enrollment lists at 637, with Princeton not much above half that, and Columbia at 124 and the University of Pennsylvania at 88.[72] The new seed was planted and when it grew, it would break the old bonds. New social and economic classes did respond; women were admitted; the preparatory departments were terminated; and states gradually took seriously the financial obligation implicit in acceptance of the land grants. The take-off point, reached around 1890, signals the rise of several well supported land-grant institutions into the topmost ranks of American academic life. Within two decades, Edwin E. Slosson was to include Wisconsin, California, Illinois, Minnesota, and Cornell among the 14 in his Great American Universities (1910). As one historian was to say, "Higher education for the masses...really dates from the early years of the Twentieth Century" -- the tardy fruition of an early ideal.[73]

Chapter IV

THE MISCONCEPTION OF A SUPREME FORCE FOR NATIONAL DEVELOPMENT

Attributing to the new land-grant colleges the role of supreme force in national development after the Civil War is another manifestation of the danger of interpreting history in terms of what the college capacity has since become, not what it then was. If the colleges ever had that capacity, it was much later, certainly after the Hatch Act of 1887, with its emphasis on research, and probably not until well into the Twentieth Century. The colleges' _own_ development had to precede their impact on national development. That is an oversight often found among admirers in the developing countries who are looking for ready-made, time-defying instruments of progress.

Nor is the case any stronger if it rests, as it usually does, on the claim that the college impact on national development was particularly and peculiarly _agricultural_. College contributions to the "agricultural revolution" came much later, too, and long after machinery, transport, land policies, and urban markets had already set great change in motion. Indeed the phenomena which so impress us today -- food production per farmer, the small fraction of the population still on farms, and the gains of hybrids and chemicals -- appeared only in the 1930's and after. They are obviously irrelevant to the early college role explored here.

The most natural and assured contribution a college can make to national development is the production of the trained manpower needed. Surely the "agricultural" colleges, however badly misnamed, did that for an agrarian age. No, they did not, again until well after 1890. A New Hampshire trustee said, "Saddest of all, its managers....had but vague conceptions of the precise product which the College was expected to furnish."[1] And it turned out to be just about everything *but* agriculture, whether practical agriculture or any other kind. In 1874 there were *no* agriculture students at Wisconsin, California, Minnesota, and Missouri -- all established prior to the Morrill Act, all in farm states, and all nominally committed to doing something special for agriculture.[2] In fact, Wisconsin graduated no agriculture student till 1878, with many years before the next, despite the inducement of at least two advertised trial curricula. In contrast to the one student in agriculture in 1881, 60 were enrolled in law.[3] This was the status 30 years after President Lathrop had begun urging agricultural education. Agriculture was neither the engine which ran the University of Wisconsin nor the end for which the University existed (as shown by trustee origins, dominant pressure groups, and curriculum).

As potential claimant to a significant developmental role, agricultural education met surprising resistance in other strong farm states. In Minnesota, both agriculture and mechanic arts were abnormally retarded and grew only within the cracks, in pieces, and against odds. The halfhearted interest of the trustees produced a "hostility between the university and the farm community that was to plague the administration for fifty years."

The first professor of agriculture found himself without students; and even after the mailing of 500 recruiting cards, students never exceeded three a year and then relapsed to zero in 1880.[4] The founders of South Dakota Agricultural College held to the agricultural and mechanic arts goals thought to be demanded by the Morrill Act but betrayed their real sentiments in the first catalog. It cited the Morrill Act but italicized "*without excluding other scientific and classical studies*" and summarized the curriculum, again in italics, as "*scientific and classical studies*".[5] Agriculture was a surprisingly low priority in the early years of the University of Missouri, too.

The classical curriculum persisted, just one professor of agriculture was hired as a concession to the Morrill Act, and enrollment reports after 1870 were designed "to conceal the practical disappearance of the agricultural curriculum and bona fide agricultural students."[6] In Ohio, only six students were studying agriculture as late as 1887.[7]

Vermont's historian describes the Agricultural College in its early years as "a struggling, undernourished abortion."[8] An alumnus called it "a bundle of whimsies." In 25 years of the land-grant phase of its existence, up to 1890, the University had not produced a single agricultural graduate. Hence a defender of a bill for separation of the College from the University of Vermont lamented: "The barren fig tree of a so-called agricultural college has been 'digged about and dunged' with liberal gifts from State and Nation till it fairly stinks, and yet no fruit. Why should it disgrace us longer?"[9] A former president reminisced, "the campus was allowed to run to hay....to show that we had an agriculture department."[10]

Many governors could have shared the sentiments of their counterpart in New Jersey, who said "we had an Agricultural College without Agriculture in it."[11] It played no significant part in early institutional evolution in Nevada, West Virginia, or Louisiana, for example. A member of the first class at Texas A and M said, "The only thing agricultural about the college was the grass on campus."[12] One Ohio trustee added a demonic note that what he helped govern was as far from God and agriculture as it could get.[13]

While there can be no doubt that the agricultural colleges, even all together, were not prepared to launch an "agricultural revolution" in the nation, their evolution and individual standing from state to state covered the extremes. In the already-established universities, even in the farm belt, the Morrill Act's farm-oriented addition got short shrift, or grudging concessions under pressure. For example, a University of Georgia historian concurred in the trustees' refusal to add four board members from the Georgia State Agricultural Society because "There was no more reason why the Agricultural Society should be represented....than that the Independent Order of Odd Fellows should, or the Georgia Railroad and Banking Company."[14] Where brand new institutions were founded under the Morrill Act, particularly if they were separated from the state university, agriculture generally fared better and in some places it was clearly dominant. In Michigan, Pennsylvania, Mississippi, Massachusetts, and Kansas, agriculture was the driving force in the founding or in early emphasis, or in both. In the Northeastern states, where the land-grant funds were given to existing private institutions, even if to a scientific college therein, agriculture was clearly a stepchild. This was true despite the special needs generated by soil depletion and agricultural malaise, and despite many valiant administrative efforts to turn the tables. The "revolution" was not awaiting the colleges but had already passed. "Connecticut is ...a great manufacturing State," the Governing Board of the Sheffield Scientific School at Yale said in biting defense of its critized land-grant custody.[15] Also, it is revealing that in all his voluminous papers, President Andrew D. White gave attention to agriculture only as a Morrill Act condition in the founding of the kind of comprehensive university he wanted and made no mention of it at all when he later boasted of his achievements as Cornell's first president, although the engineering departments were remembered.[16]

Inability to make much impact on national development via agricultural colleges in the first quarter-century of their evolution was worsened by the lack of a profession or a science of agriculture. Many colleges could not find professors of agriculture -- quite naturally, since the subject did not yet exist -- and years passed before even the title had any presence on many campuses. Professors of related subject-matter were thus hired, or professors of something else with an agricultural slant. As eminent an agriculturist, seen in retrospect, as Liberty Hyde Bailey, confessed as late as 1893 that no one knew how to teach agriculture; hence it was undertaken "in the guise of the various sciences -- as chemistry and botany and physiology."[17] College leaders said of the lack of an established science, "It is simply a mass of empiricism," and "We have no guides, no precedents ... The Newtons and Keplers of Agriculture are yet to appear".[18] Nor was the situation helped when the "real dirt farmer" came into his own and launched the bitterest tirades against book learning, breaches of faith, and misdirection of funds. The Grange, the Populists, and the state agricultural societies saw little or no college relevance even for their farms, to say nothing of broader national development, agricultural or otherwise. After all his preachments and proddings, Jonathan Baldwin Turner was so unhappy with his Illinois university progeny that he long refused to go on campus and fulminated against the running of things by a "parcel of decayed or otherwise incapacitated preachers" (i.e., classical educators).[19]

If this was the unpromising state of agriculture as a profession, the new colleges did add to the total trained manpower pool, with potential application to national development. What kind of trained manpower did they produce?

The answer is: not much for agriculture directly, a modest number for agriculture-related occupations, and the bulk for the conventional professions and general walks of life. The mechanical arts fared better than agriculture, and in some places, like Illinois, flourished while agriculture was languishing, with ratios favoring engineering by two, three, four, "or even five to one."[20]

The best agricultural showing was made at Michigan Agricultural College. A national study in 1892 showed that while other midwestern colleges had produced only 10 to 24 agricultural graduates each, MAC had turned out 600, or one-fifth of the national total, exceeding the combined total for 25 other states.[21] No other institution could boast much competition, although Massachusetts had by 1892 graduated 361, of whom over half were reported as "engaged in farming and closely allied fields," and Mississippi boasted of more than a third.[22] A different story is told at Ohio State, where only two out of the 93 graduates from 1870 to 1886 were in agriculture, whereas 27 received engineering degrees, 27 bachelors of science, and 37 bachelors of arts and philosophy. Employment records of the 67 men who finished before 1886 showed 23 in engineering, 12 in law, 11 in teaching, 7 in commerce, 4 in journalism, 4 in medicine, 2 clergy, 1 soldier, and 1 graduate student, with only the remaining 2 classified as farmer and fruit grower.[23] Nor did other strong farm states produce as expected. Purdue University in Indiana graduated its first in agriculture in 1881 and averaged one a year until 1893 -- only a sixth as many as in civil and mechanical engineering.[24] At Minnesota in 1873, President Folwell was humiliated that "not a single young man has come here desiring to learn the Science of Farming."[25] Agricultural enrollment at Wisconsin did not respond to a lavish catalog announcement, and the board of visitors in 1880 lamented "finding no students in, and learning of no graduates from the agriculture department;" but Historian Pyre calls this a "slander" because there was one graduate, a bachelor's in 1878, who attended two years and "rose, ten years later, to be postmaster of his native village."[26] At Illinois, new agriculture/horticulture enrollment dropped to zero in 1890 after an impressive beginning, and "the College of Agriculture at Urbana had nearly expired" before the "new era" of the Hatch and Second Morrill Acts. This experience prompted a disillusioned teacher to say the survivors were "mental cripples" in a program which was a "disgrace" to the greatest agricultural state.[27]

Although a land-grant model in many other ways, Cornell graduated only nine in agriculture in its first 11 years, from a department adjudged "decidedly unsuccessful," which prompted the Nation to say this less-than-two-a-year was the dividend for New York's $900,000 Morrill grant.[28] Connecticut had an impressive 65 farmers out of a total of 166 graduates up to 1900, but New Hampshire had only 30 out of 136 living alumni reported in 1893, two of whom were labeled "Professors of Agriculture" and 28 "Other connected with Agriculture."[29] Adjacent Maine, had only 34 in agriculture and allied industries out of 348 living alumni in 1892, or 10 percent as compared with 41 percent in engineering; also the professions, business, and editorial/literary work compared favorably with agriculture.[30] The Rutgers Science School turned out 99 graduates in 15 years, of whom six were in farming.[31] Of 70 at Maryland from 1865 to 1892, two were farmers and six engineers.[32] At the nadir, it took Arkansas more than 30 years to produce the first bachelor of science in agriculture; and Nevada had no agriculture or mining graduates until almost 30 years after the constitution contemplated suitable training facilities.[33] Thus, Nevada's "trickle of mining specialists and other engineers," which began only after 1892, "was hardly enough to have a large impact on the mining industry," in the considered view of a sympathetic historian.[34]

Regardless of field, the total number of graduates was too small to make much developmental impact anyway. Wastage from entrance to graduation was astounding, further compounding the other limitations of low enrollment and minimal student tenure in intellectual pursuits. Before 1880, for example, Kansas State averaged about three graduates a year, with a range from zero to nine.[35] In the period before 1890, Texas A and M averaged nine graduates, Louisiana was still lower, and Arkansas ranged from zero to 15.[36]

In other words, the manpower training done by these new colleges turned out to be, both by student choice while in college and by employment choices after graduation, much more conventional than expected -- chiefly for liberal education and for the common professions. The exceptions were found in institutions which deliberately restricted their curricula to a narrow interpretation of the Morrill Act; and even there, the "related" fields often did better than the explicit specialties of agriculture and mechanic arts. As a result, college spokesmen usually defended themselves against populist criticism that the intended goals were not realized by taking a broad view and boasting of contributions under such labels as "citizenship," "leadership," or "broader and better and more knowing men." Iowa State's historian admitted that of the less than expected number of graduates before 1890, also less than expected chose agriculture and mechanic arts (in fact, 60 percent were quite traditional); but he quickly added, "the shortage was more than met by the training of leaders who would further the work of these occupations."[37] Missouri's historian likewise apologized for the poor showing and added, "nor is the amount of good....to be measured by the number of those who complete the full course and attain graduation."[38] Senator Morrill himself decried the mere dollars-and-cents evaluation and the farmer-producing emphasis, extolled the freedom of the states from "sending to Sparta for commanders," and plead that men trained "for any and every duty must be grown and ripened in the localities where wanted."[39]

Morrill's "localities where wanted" points to another developmental dimension of the land-grant colleges. One of the distinguishing features of state institutions, including the land-grant colleges, was their relevance for and attachment to a particular geographical place. They were not to serve only abstract truth or only mankind generally. Instead, they were to serve what their place names implied and designated. That gave them a developmental slant from the outset -- colleges with antenna out for public needs to be met -- and, essentially, the needs of a particular state. This proclivity was enhanced by the emphasis on the practical and on the practicing professions. This extended from discovered knowledge to applied knowledge. Therefore, it was no accident that Kansas State scientifically demonstrated that winter wheat, among many other crops, was an answer to a harsh environment; that Florida Agricultural College gave research attention to the semi-tropical fruits and vegetables "which are making Forida celebrated throughout the world"; and that the University of Arizona, including a School of Mines, sought not to rival Harvard and Yale, but "to follow those lines that seem to lead to the best and immediate practical results of greatest value to the entire Territory."[40] Finally, to undergird it all, there was no pretense to elitism, but rather a pride in reaching the unreached, in doing better than before, and in extending educational opportunity, with a resulting new dimension in manpower training, both in type and in quantity. Also from the beginning, it was assumed that college/university development and community/state development were locked in parallel. Their historians so recorded. If Mississippi had made its college, its college had also made Mississippi -- "the ultimate test of the worth of the college" and "the symbol of the search of the Mississippian for the better life."[41] The foundation-laying of the university building at Reno "was to mean more for the State (Nevada) than that of any other building in its history," except for the Capitol.[42] The University of Wisconsin and the state were coeval in history, with the university's growth "not as a mere embodiment of theoretical ideas, but by a fitting of means to ends in a particular medium of frontier surroundings."[43] Missouri inspired its historian to note that "No institution develops in vacuo" but as a chapter in the social history of its time and place, which was merely confirmation of an early president's conception of the University as "framed upon the very idea of usefulness to the State."[44]

The ideal of development -- good works, human uplift especially of the lowly, and improvement through knowledge -- was always held by the land-grant colleges and their most evangelistic spokesmen, but the realization was slow in coming. The ideal and the actual always leave something for further effort in between, but the gap in the early land-grant days was a yawning chasm. To say that there was any significant developmental impact distinguishable from that of all other higher education before 1890, to be very conservative on the date, is to perpetuate a myth overdue for burial. The myth often heard at home and more often heard abroad, holds that the new type colleges virtually created modern America on the material side, by means of an agricultural and industrial revolution. Would that knowledge ever had that potency or enjoyed that opportunity, either then or now! The refuting evidence is persuasive. No reputable history of American agriculture or of industry bears out the assumption. An agricultural revolution, at least in the productivity sense, had already arrived before the new colleges were established, not to overlook the fact that there could have been earlier claimants in the state-authorized agricultural colleges in New York, Michigan, Pennsylvania, Maryland, and Kentucky, which preceded the federal action. European visitors were marveling at, and writing about, the American stage of development equally early, too, well before the new colleges had become viable institutions.[45]

A better case could be made that agricultural development was the parent rather than the child of agricultural education, but the causal relationships between the two are tenuous and fragile even in the so-called farming states. The more fundamental and broader scientific base had earlier roots. These roots were nurtured by the new colleges, followed by the many tardy converts to equity between scientific and classical curricula. But the essential ingredient for collegiate effectiveness, whether in agriculture or scientific pursuits generally, was simply missing: the tested principles and verifiable knowledge which came from research (little before 1890) and the systematic diffusion which perforce lagged still further. In formulating views puckishly attributed to his enforced leisure as a professor of agriculture, Eugene W. Hilgard wrote in 1882 that research would have "to fill the aching void of the agricultural lecture-rooms" because the new colleges had made little impact except where they had become "to some extent...experiment stations."[46] This was amply confirmed in Pennsylvania, where even the explicit agricultural bias had to await the Hatch Act's impact to erase the stigma of "not performing."[47] Finally, a note of caution is to be found in the emergence of many of the "revolutionary" characteristics, especially the non-agricultural, in other countries, especially the Western European, where land-grant colleges did not exist.

The volumes of Agricultural History contain several articles about the nineteenth century "agricultural revolution" -- not a name liked by all the authors -- but none assigns a significant role to the new land-grant colleges.[48] By 1850 significant change was already evident. One article shows that the 1850-60 decade gave agricultural and rural life in Indiana an improvement impetus which continued for 60 years.[49] Another author who began his study at 1850 precisely to evaluate the innovation and diffusion processes "before they became partly institutionalized in agricultural colleges and experiment stations" (which had to be after 1887), notes widespread mechanization at the outset.[50] A third author holds that the application of machinery served to aggravate the "overexpansion of an already overexpanded agriculture" produced by reckless U.S. land policies which paid no attention to agricultural production. Indeed crop production in the nine leading states rose almost 500 percent from 1830 to 1890.[51] Still another study, significantly entitled, "The Civil War: A Catalyst of Agricultural Revolution," shows that the century's greatest increase in agricultural productivity per worker came in 1860-70 (or by another version, in 1870-80), and that wartime conditions, including a labor shortage, produced a shift to animal power and to commercial agriculture.[52] One must conclude that many of the developments often attributed to the new colleges were pre-existing and, in fact, helped make the colleges possible. Out of parallel political developments, in the single year of 1862, emerged that remarkable quartet of legislative nationalization made possible by the withdrawal of the Southern Congressmen: the Homestead Act, the new Department of Agriculture, the Union Pacific land grant, and the land-grant college act. It obviously would take time for the serendipitous compounding of these separate national policies to have the development impact which so impresses us today.

American economic histories give more attention to natural conditions, inventions, canals, railroads, market developments, urbanization, and land policies than to land-grant education, which gets surprisingly little. In their introduction to the Columbia University Studies in the History of American Agriculture, Professors Carman and Tugwell list what the study of agricultural history includes. They do not mention the land-grant colleges, or education.[53] Another history shows that before the new colleges were founded, inter-regional competition based on comparative advantage of climate, soil, economics, and settlement patterns were already heavily influencing the choice of enterprises; and this uncertainty stimulated thought and progress. "It tended to make the agriculture of the period rational rather than traditional. It stimulated the development of the agricultural press and paved the way for the establishment of agricultural education." (Italics added.) So wrote Bidwell and Falconer, quite significantly in the culminating final sentences of their History of Agriculture in the U.S.[54] A study of the agricultural revolution in Georgia discusses land tenure, cotton prices, and better roads, but notes the impact of the land-grant college only after 1900.[55] Indeed one analyst generalizes that educational advance follows industrial and social development, like a freight car after a locomative, with "a long elastic coupling."[56] Therefore, potent as it was destined eventually to become, the new college education was one of the later ingredients in a complex national mix which did indeed accelerate national development, with periods of phenomenal agricultural change.

In the years before 1890, the developmental contributions of the land-grant colleges were of an unheralded nature and many were wholly beyond what Senator Morrill and his supporters intended or dreamed. They were a boon to frontier settlement. They stimulated land sales and sometimes became involved in the accompanying politics and corruption. They became an important ingredient in the frenzy of "internal improvements" in many states. They gave powerful impetus to an improved and balanced school system, uplifting high schools particularly. Many of the early colleges gained support, not for educational idealism, but for encouragement of land sales and settlement. Many were ploys in the legislative maneuvering for scattering internal improvements around the state, with attempted equitable distribution of college, Capitol, penitentiary, insane asylum, seminaries, and normal schools. College towns, like Madison, Wisconsin, became "something of an oasis in the intellectual desert of the frontier."[57] The faculties drawn from the best places in the U.S., and often from German university training as well, lifted sights above the provincial, as the bootstrap approach to rising admission standards gave impetus to high school improvement, both in quantity and quality. Until the practical ideal took root, the contribution of these colleges, like most others, was more diffusely intellectual than specifically material.

These were important contributions to national development, as was the national nature of the land-grant college network itself (to be explained later); but they were hardly in accord with original intention or with contemporary conventional wisdom. The more direct developmental impact of such colleges came after the agricultural experiment stations were established (1887), after research knowledge was given an extension mechanism, after the engineering schools were equipped and well patronized for both training and applied research, and after enrollments in the practicing professions generated thousands, not merely scores, of leaders and specialists. It was a long road from the early unrealized ideal to the contemporary consensus that education belongs with labor and capital as ingredients of production; that national, state, urban, and community problem-solving often depends on university-based knowledge; and that growth in some economic sectors is largely dependent on campus research, such as the claim that 80 percent of increased agricultural productivity emanates nowadays from colleges of agriculture and their research/extension.

Despite these seeming negatives, it must be said in summary that the land-grant colleges were on a different track, they had a new and unorthodox aspiration, and they were on their way, however slowly, to a unique educational role in social and economic development. They eventually became what they aspired to be, or close to it; and having aspired to be different, they proved to be unique. Hence, today, they are known around the world for what they wanted to be in the beginning -- development-oriented, problem-sensitized, socially relevant, need-responsive, hostile to the ivory-tower idea, and dedicated to public service. That is why their philosophy is so popular in the developing world and so often imported there, with appropriate variations. Both the foreign importers and the American exporters have looked for the key to America's own phenomenal development out of pioneer beginnings in the hope that it can be transferred overseas. They have fixed upon an important component and one which steadily widened with collegiate maturity, but they have paid little attention to origins, evolution, and possible replication. As a result, reinforcing reiteration of current capacities and relationships has led to exaggeration of past capacities and neglect of both the time element and the non-educational factors.

The developmental role of the land-grant institution is so familiar and accepted today that it is hard to believe it was ever otherwise. But today's axiom is not always yesterday's. It has been well said that widespread citizen support of such an institution, quite beyond the expected student gratitude or benefit, is derived from the realization that societal problems "can be settled only on the basis of a wider and more accurate scientific knowledge and that the university is the organ of the state whose function is to discover this knowledge, to synthesize it into science, to spread it abroad in print, and train it into the very fibre of the youth of the commonwealth..." Expected, familiar language. But it was not what would have sounded familiar between 1862 and 1890. It was actually said by President Edmund James of the University of Illinois to celebrate a half-century of maturation and to congratulate the citizens of 1918 for their willingness "to spend more money upon more subjects in more ways than the men of the forties and fifties in the prairie state."[58] As this implies, at no time did blame lie with the colleges, born of big ideas and meager resources. Paradoxically, the early years expected too much of them and the later years attributed too much to them.

It would be easy even today, as so commonly in the past, to exaggerate the educational component in national development, at least as it is now actually employed. A clue is found in the fact that foreign aid to developing nations, whether from the World Bank, from United Nations agencies, or from individual nations, contains only a small fraction for education, at any and all levels. In total, it averages around five percent, with much less obviously going to the strictly university level. Many academic personnel, except perhaps the development economists, think that fraction could and should be greater for an optimal development mix; but this merely reemphasizes the need for moderation in making claims for the land-grant colleges, or any other kind, as dominating, direct agents of national development.

Unfortunately, we know too little about what did produce the phenomenal U.S. development after the Civil War -- or at the turn of the century, and even down to this day. What were the components, the proportions of the mix, and the critical phasing? If we knew more, we would know better how to aid development in the less fortunate economies around the world. In the absence of such knowledge, the temptation, if not the fad, has been to claim too much for advanced training and education. If there is a knowledge-based potential waiting for greater use in national development, it will fare better from the modesty induced by a reexamination of history and from a more dependable measurement of what is in fact happening today.

Chapter V

THE MISCONCEPTION OF THE STATE ROLE

Another misconception comes from the current familiarity with large, state land-grant universities (with the "state" part usually conspicuous in the very name) which are now viewed as a public, tax-supported, open-access alternative to traditional private education. It is easy to infer now that the states eagerly stepped up to the federal challenge, embraced and discharged their constitutional responsibility for education, and perforce put their tax dollars behind an accepted public remedy for the private ills. That is not what happened. On the contrary, most of the states showed uncertainty, reluctance, and indecision except for the negative conviction that the proffered land grants must not be lost. Starting a college did not mean supporting it, and supporting a college did not mean controlling it. Support and control were both to evolve. Time gradually sorted out the options, foreclosing some and reinforcing others. As the giving of land grants by the federal government was a substitute for money, so the acceptance of land grants by the states was a substitute for taxes. Painful experience and the practical elimination of alternatives led to state tax support only after long delays, sometimes literally decades. Appeals for more land grants was an option which had to be played out, too. Indeed a chronicler of "democracy's colleges" concludes that the states did not adopt the colleges fully and give reasoned support until the first decade of the twentieth century.[1]

As there was no rush to put tax dollars behind a public collegiate alternative, however fervently the egalitarian rhetoric was embraced, so there was no eager action to meet a perceived constitutional responsibility. Indeed which had the responsibility, federal or state, was then by no means clear.

It is important to remember that President Buchanan had vetoed the first Morrill Bill on the grounds that it was unconstitutional, viciously disturbed normal federal-state relations, and invited habitual state dependence on the federal government. Only the secession departure of Southern members from Congress permitted the balance to shift to a national role for a national purpose, with the "free soil" political philosophy then freed from states-rights votes. This state of confusion is understandable. In fact, despite strong advocacy and organized promotion, neither federal nor state government had any apparent, urgent need to step into the educational business, as any denominational leader would have been glad to volunteer. The public decision-makers were not yet moved to action by the demand for a different kind of education, with broadened educational opportunity. At the same time, the traditional colleges were springing up with a profusion unlike anything seen in Europe or elsewhere, with the peak in the 1850's, when twice as many arose as in the preceding decade. Of those set up before 1860, three times as many were destined to die as to survive.[2] Against this background, it is clear that the Civil War and its aftermath did more to create the ideal of education responsive to neglected public needs than it did to produce material support. Thus the ideal found national expression much sooner than it found state support, contrary to common misapprehension.

While this misconception and gross exaggeration of the early state role persists, the federal role has been neglected and underestimated. Federal land did more than simply entrap the states into sometimes unwanted responsibilities. In many cases, its proceeds (in the absence of annual appropriations, whether federal or state) were the life-blood of early financing or even the sole support; and when the need intensified, the Second Morrill Act of 1890, coupled with the 1887 guaranty of long-term support of agricultural experiment stations, came to the rescue. The colleges were not only nationally inspired but also nationally supported in a sense which we have long forgotten. Their early national character, with linkage in a country-wide network, is as much their genius as anything about them. This was a revolutionary and unique development in a government which otherwise insisted, with increasing vigor over more than a century since, that it had no national responsibility for education (except for the military academies), that no national educational policy was the right policy, and that it should all, in any case, be left to the states.

Nevertheless, in the historical emergence of public institutions, not only publicly chartered but also publicly supported, federal action gave the greatest impetus, through the Morrill Act of 1862. What it tantalizingly held out to the states was crucial. While some states were well on their way before federal largess was found, that outside impetus was in most cases the necessary spark to action. And beyond action here-and-now, there was the obligation to maintain intact and in perpetuity the capital fund of the endowment.[3]

Despite the worthlessness of some of the lands, the cheap sales, the disappointment as a perpetual endowment, and sometimes the sordid politics, the Act made a tremendous impact. Standards of that day, not of the present, have to be applied. It was seen as "the munificent grant", "the bounty of the national government," "a very handsome endowment," and "a permanent fund."[4] Indeed 17,500,000 acres was a handsome bounty nationwide, even allowing for the shortfall from original income expectations. Historians view the Morrill Act as the savior of many institutions which had been chartered to go where no means existed for taking them. "The copartnership [federal-state] was the salvation of the University of Georgia."[5] It "helped the Maryland Agricultural College struggle to its feet and eventually to leadership."[6] It saved and built on the struggling Delaware College and permitted it to offer collegiate work, rather than strictly preparatory, after the Civil War; and it gave Missouri more financial assurance than anything since its founding in 1839.[7] The Iowa Agricultural and Mechanical Arts College turned to the federal government "in its desperate struggle for perpetuation"; and "the foundations were laid for a new Rutgers."[8] Also in the great dislocations of the Civil War, some closed state colleges reopened earlier because of the infusion of federal aid, some actually during the war; and many in the South began or reopened earlier in similar response after the war.

For both politicians and educators in many states, the federal land grants had another strong appeal, but of a negative kind: they were an escape from state responsibility and taxation. The financial climate immediately before the Civil War and the Morrill Act was not propitious: a depression countrywide and several instances of state effort to "sell" its new college or repeal its charter as a tax-relief measure.[9] Furthermore, education was a comparative luxury in a new country; and it prepared some individuals for the future, while taxes hit everyone right now, with the resulting implication of inequity. Missourians were representative of others in that their tax-paying capacity was low and their willingness to be taxed still lower.[10] Even a quarter century after his famous statute, Senator Morrill complained that his own state of Vermont was deaf to legitimate entreaties, not doing its part, and paying only "its stipulated $8,000 a year" (land-grant proceeds).[11] Depending on the land income -- the overestimated federal endowment -- was widely regarded as an alternative to, or escape from, taxation, and in several states came to be a genuine barrier to the assumption of reasonable state responsibility.[12] California's Board of Agriculture was sure that if seminary and Morrill grants were put together, the state would "be relieved from the necessity of appropriating another dollar" for the assistance of "an Industrial College."[13] In a speech at the state fair in 1878 Nebraska's Senator Paddock claimed that federal aid would "secure for us, forever, educational privileges of the highest order, with the smallest possible burdens."[14] Within a decade, North Carolina assumed its land-grant obligations but the action "would have failed if it had called for one dollar from the general treasury."[15] Fear of state legislative dependence proved to be well-founded. Even in the relatively idyllic conditions of the Michigan Agricultural College, its president feared the ignorance and caprice of each legislative session, which progressively hid behind a combination of self-help philosophy and the rising Morrill income.[16] Iowa profited from Michigan's experience with that "very uncertain and unpleasant method," viewed the new type college as frugal and easy on the public purse, and for many years depended on the leasing of its granted lands for operational costs.[17]

This pattern of parsimony and reluctance persisted in the Western states which came to statehood late enough to be tempted by the new federal funds of 1887 and 1890. Arizona created a paper School of Agriculture in 1889, with no building, no professor, and no money, in order to receive $15,000 from the Hatch Act. Apparently in some sense of contrition, a lawyer was then named professor of agriculture, thus justifying the "pure manna from heaven."[18] On receiving the second Morrill Act's funds, the Secretary of the Board said, "It is hardly probable that any further appropriation will be asked for some years to come, as almost the entire appropriation of the school will be paid from Congressional appropriations."[19] In the same spirit, Oregon land-grant officials actually declined $5,000 from the state legislature.[20]

In other words, much legislative effort went into the search for some self-sustaining formula for the new colleges, cost-free to the state.[21] Among the favorite escapes from reality were tuition charges, the sale of produce from the college farm, piggy-backing on existing institutions, salary and staff reductions, and what might be called aid from the highest bidder. Maine's "Greenback Legislature" of 1879 voted not a single dollar but shifted the burden to tuition.[22] Massachusetts sold its blooded stock, eliminated jobs, and withheld the president's salary.[23] Even Michigan's auspicious beginning soon ran afoul of its board's determination to reach self-sufficiency by such means as enlarged farm operations.[24] Connecticut was so sure it could escape cost by endowing an existing institution that in 30 years of the relationship, no direct state appropriation went to Yale (the eventual land-grant recipient), although the federal fund yielded only $6,750 a year.[25] Another tax-dodging technique was to put the location of the new college at auction, with counties and cities vying with each other for cash, loans, buildings, or whatever other attractions human ingenuity could devise. The bids made and the deals struck were awe-inspiring -- and tax-saving.

Self-support had its own philosophical appeal and it had political uses in the private vs. public education debate. As late as the turn of the century, the catalogs of the land-grant college in Rhode Island boasted that all salaries were paid wholly from federal funds.[26] By current standards, it is shocking how often taxation as a means of support was not even seriously considered, as if so inappropriate as to be literally out of mind. Even the unorthodox

Jonathan Baldwin Turner, old fire-eater for the so-called "new education," in 1863 urged slow building of the university in his own state in order to avoid added taxes.[27] Always in the background also was the hostility of the private colleges, which now forgot the alacrity with which public funds were accepted when denominational control was not in question. Typifying this historical reversal, President Charles Eliot of Harvard contended that a state might provide universal primary education as a cheap police system but no one should be taxed to send another's son to high school or college.[28] Furthermore, while national aid was only a drop in the bucket, "The one drop is a drop of poison."[29]

If the Morrill Act did not create a new educational goal, it took an emerging one and made it national. It set up conditions which, when accepted by the states, had a certain inevitability about them -- a down-the-road certainty that the states would somehow have to sustain what they agreed to start. Whether this was federal entrapment can be debated; but leaving motive aside, nothing about the Morrill Act was so far-reaching as the provisions which required positive acceptance by the states. However much they resisted, delayed, and temporized when the full impact of acceptance dawned upon them years later, the legislators and educational reformers were by no means blind when they advocated acceptance. If they were "bribed," as a Southern firebrand said, they were not oblivious to the pros and cons, the trade-offs, and the consequences. These were discussed and weighed. The trouble lay, unavoidably, in having one legislature accept the terms and later legislatures meet the obligations. Indeed such ambivalence could and sometimes did prevail in the enabling legislature itself, as when Pennsylvania accepted the terms, saying "the faith of the State is hereby pledged to carry the same into effect," but appropriated nothing, even for the expenses of handling the land sales.[30] Federal proponents in the Congress and state acceptors back home could have been understandably uncertain about much, but they could hardly have overlooked the intention of a short-term federal gift with long-term state obligations. That interlocking inevitability was understood in New York State in the pre-Cornell days, when the Board of Regents adopted a policy of "colleges... to be cautiously erected...only when called for by strong public expediency" because such an act means "also imposing upon the government the necessity of bestowing upon it [college] a very liberal and expensive patronage..."[31]

Even in states where the new college idea was least appealing, the proffered federal subsidy was still irresistible. Rather than miss the opportunity, tardy states twice asked Congress to extend the authorized acceptance period (a necessity particularly in the Southern states caught up in Reconstruction), and not a single state failed to honor the reset deadline. Just to be sure, Tennessee accepted twice.[32] It could have been no surprise that friends of the colleges, and their presidents, began at once to point out the obligation of the state, or a solemn contract with the U.S. Government, and to ask for appropriations for both buildings and annual operations. Indeed more than one president-elect refused to assume office unless state funds were forthcoming. The appeal was political as well as educational, as shown when the Maryland legislature gave the Morrill proceeds to the new Agricultural College, although the trustees had not asked for such action, even after the president had so requested.[33]

Rather than providing state tax support, most of the states looked upon the "princely endowment" (Allan Nevins' words) as a federal replacement of state responsibility; at least, many years were to be taken up with evasion, temporizing, reneging, and borrowing against what was neither matched nor supplemented. Some detailing of what the historians have found will make the point.

First, it must again be realized that the "riches" of that time were relative: they looked princely in relation to any alternative, and before the ravages of corruption, neglect, and questionable land sales. The sales income totaled $7,400,000 from 17,500,000 acres. But we need first to get a realistic view of college budgets of that day: for example, the president of the Pennsylvania College of Agriculture thought $47,000 would suffice, for annual operations, obviously mostly from state funds; but no institution except Cornell even approximated that sum when it began using the Morrill income.[34] Trying to raise that amount, or a faction of it, proved a monumental task -- and an impossible one in many places for many years, whatever the sense of "obligation." In fact, colleges like New Hampshire's were so impoverished that the second federal filip, the Hatch Act of 1887, with its $15,000, "was a tremendous sum to the little...school whose total annual budget did not equal this amount."[35] The Springfield Republican said the University of Vermont was the "Micawber of colleges, always poor, always waiting for something to turn up," and President Buckham lamented that the state had "not helped by one acre or one cent."[36] College aid in California was "wretchedly insufficient," only a third of the expenditure for the "support of criminals," because the tax lag pitted public schools and higher education against each other.[37] For a decade, Ohio refused even to pay trustee expenses.[38] New York "merely stood by" and "did nothing."[39] Having tried loans, other indebtedness, fees, and nominal salaries, Missouri reached its watershed almost 30 years after its founding, with legislative recognition of its obligation in order to meet the terms demanded by its incoming president.[40] In much the same way, Wisconsin began token support only to restore income which had been lost through legislative reduction of the University Fund, and until the millage tax of 1876 relied on tuition, room rents, lot sales on property outside the planned site, and salary reduction, in addition to the federal endowment income. A state senate committee deplored the university's opening before the lands were sold and income was available, but it held that "the honor of the State, as well as the good to be derived from education of our youth, forbid the idea of retreating or repudiating." Still, honor did not mean taxes. It meant a loan and a higher minimum price for the land sales.[41] Other states fell into the same self-entrapment, with loans from the federal endowment which, in repayment, induced a practice analogous to annual appropriations.

Likewise, "Pennsylvania State was not the pampered child of the Commonwealth, but a neglected stepchild to whom support was given inadequately and grudgingly."[42] The college suffered almost two decades of "dark ages" and was not taken seriously until the Hatch Act of 1887, with its new infusion of federal subsidy.[43] Meanwhile, when $50,000 was desperately needed to complete the main building, just before the Morrill aid, the legislature voted $49,900; but that was the last for 11 years, while $80,000 had to be borrowed to pay debts incurred after student fees were pushed to the limit.[44] Similarly, "the College was the adopted child" in Maine; and Tennessee's "child of its creation" had received "not one dollar" of state support as late as 1888.[45] As evidence of state indifference, Connecticut in 1893 gave proceeds from both Morrill Acts to the Storrs Agricultural College, ignoring Yale's claim that it (as the first recipient of the 1862 funds) had spent $600,000 for equipment and space, hired needed professors, and contributed more than $1,500,000 in running expenses but "not a dollar had come from the State treasury."[46] In fact, even the federal funds went to scholarships and they were matched seven-to-one by other funds from the Sheffield Scientific School.[47] Yale eventually received a little more than $150,000 in damages, through the courts and a special commission.[48]

Will-of-the-wisp alternatives to state support held out for decades in some states. After having taken 11 years to open the doors of the college the Morrill Act contemplated, Ohio took 18 more to provide a direct state levy.[49] Louisiana appropriations were deferred until 1880, and thereafter they "were pitifully small."[50] Worse still, for 30 years, the Rhode Island legislature declined assistance to its land-grant embodiment.[51]

Still more interesting strategems were devised. In 1870 the regents in one case issued 364 pieces of scrip called "College Greenbacks" in $100 denominations -- a plague for several years, which caused the historian of Kansas State to avow, "As a State institution, it ought to have been sustained or abolished."[52] Until 1893, it could be said that "the College has paid its expenses practically out of the bountiful pocket of the federal government."[53] Having exerted itself to do as expected in supplying the buildings needed for the new college, Nevada still fell short. As a result, a "University Ball" was held in 1874 to raise money for furniture and other unmet needs, with a large crowd despite 40-below temperature.[54] More than one state sought remedy at the higher education level by considering a Congressional shift of the land-grant funds to the aid of public schools as a top priority. Missouri with an above-average appropriation record in the '70's and '80's, found its governing board tempted to cut salaries to make ends meet, with resort instead to expecting professors to spend part of their summers "in arousing interest in the state in the cause of education."[55] Neighboring Araknsas endured paroxysms of salary-cutting, legislated faculty terminations with some rehiring at lower pay, library deprivations, and appropriations in warrants of value fluctuating as low as 30 percent.[56] Minnesota was bailed out by John Sargent Pillsbury, a local merchant. The University owed him $1,000 for supplies for Old Main, but he turned from suing to saving the University when the legislature let the regents issue $40,000 of bonds against its land, which he then undertook to sell until the debt was liquidated.[57] Indiana hoped for a similar solution. When John Purdue appeared on the scene, with money to break a deadlock in accepting the Morrill Act, the symbolic handing over of the proposed college, at least by name, to a wealthy merchant, was assumed to relieve the state of its major responsibility.[58] When Nebraska found out that the main building would fall down or should be dismantled unless the foundation could be redone at a cost of $8,000, and the state did nothing, Lincoln residents were pursuaded to advance the money with the understanding that the legislature would then reimburse. The confidence was misplaced, unfortunately.[59] Wisconsin once hoped that engineering would be supported by the military training requirement, as at West Point. Despite its pre-War origins, it did not get state appropriations until 1867, when an annual sum of $7,303.76 was voted for 10 years; however, the motive was not to vote a gain but merely to avoid a loss. This precise replacement of the depletion of the University's land-grant fund (7% on that reduction) proved to be a great precedent nevertheless, with permanent effect on the state's conception of its responsibility.[60] Following another commonly used strategem, Tennessee avoided need for a state appropriation, even for buildings, by giving the federal grant to an existing institution, the University of East Tennessee, "which was already somewhat of a State institution."[61] Virginia did the same by siting what was to become the Virginia Polytechnic Institute on the property of the Preston and Olin Institute.[62] California gained impetus from merger with the private College of California.[63] That kind of escape was particularly appealing where New England states made the allocation to existing private institutions. Even start-up costs were thus obviated as tax burdens.

It must be concluded, therefore, that priming the state pump with federal income was not very effective the first time. It took a second and third effort to start a more dependable flow. While they did understand their obligation to supply the buildings required, as the Morrill Act of 1862 contemplated, some states balked even at this minimum. Massachusetts was so disappointed in the yearly $8,300 available when the land scrip transactions were completed that the legislature refused for four years to appropriate for buildings.[64] When forced to do something, the legislators voted a loan to be paid back from land-grant revenue -- a practice resorted to in many other states. A conscientious effort was made in most cases, although there were unfinished structures, defective workmanship, corruption, delays with charges of bad faith, and efforts to "palm it off" on existing institutions with existing buildings. This minimal part could be done at the outset, if not once and for all, at least without annual outlays; but public sentiment gradually came to the colleges' rescue, along with agitation and reminders from the colleges and their leaders. Some crisis or emergency or appeal to fair play usually led to an appropriation for some operational purpose, and what had thus begun could then be repeated. The spasmodic gradually became habitual. That federal benefaction would not forever suffice became crystal clear. That the colleges could be a public resource, both as the capstone of the public school system and as the generator of useful knowledge, also sank into the public consciousness. An increasingly self-conscious democratic spirit confronted the politician with something he could not afford to resist. These forces at last found a catalyst in two new extensions of federal assistance -- the Hatch Act of 1887 and the Second Morrill Act of 1890. The $15,000 a year in one case and the $15,000 a year rising to $25,000 in 10 years in the other case made a tremendous impact on the states' incipient readiness to make good on the implicit obligations long before assumed. The strength of the appeal of this precedent for extension of federal aid, once begun, is shown by the impact on private institutions such as Yale and Brown. These disillusioned recipients of the original land-grant funds could not satisfy the advocates of the "new education" and soon sought means of escape. But the new federal funds, in outright cash, proved too appealing; and prolonged fights ensued, with painful settlements of extrication. With only $6,750 annually at issue from the Act of 1862, Yale was worn down to surrender; but with $25,000 annually at issue from the Act of 1890, Yale was prepared to resist.

Most of the colleges were pulled over the hump by the 1890 Act, which provided for a "more complete endowment." A new era dawned. The take-off point had been reached for most. College histories are replete with recognition of this financial watershed, this tardy state assumption of its role in public higher education. Thus, only after 1890 did it become clear that the state was destined to become the major partner, at last taking seriously the long-repeated rhetoric of public education. In 1890, the Ohio legislature began a new epoch by making annual appropriations to the Ohio Agricultural College.[65] In 1910, Edwin E. Slosson, in his Great American Universities, regarded the

University of Illinois as only 16 years old because, "It was not until about 1893 that the State really began to take pride in it and give it proper support."[66] As the 1862 Act saved the life of the University of Georgia, so the 1890 Act was a "great boon," but state help was so tardy that two-thirds of the operating expenses came from federal funds as late as 1896-97.[67] President Fernald of Maine thought the 1890 Act a godsend, the end of a "pioneer period," and the beginning of a "period of development...stretching away through the centuries of the illimitable future."[68] At the end of 25 years, the state had appropriated an average of $12,000 a year for the University. Most of that went to buildings, with less than $3,000 a year for instruction and other current expenses.[69] Nebraska's historian hails 1890 as the date after which "the University had a future."[70]

A cautionary note is again in order on the parsimony of the states and their slowness to give tax assistance. Pioneer achievements can easily be judged and misjudged by later or current standards. It is easy to forget, for example, that Arizona's long preference for experience over education was grounded in the difficulty of holding off the Apaches and building schools at the same time.[71] Therefore, it is revealing that the authors of individual university histories — often on the occasion of the centenary -- are appalled at the niggardly early treatment, while the partisans of state universities writing before 1900 are not only less critical but sometimes actually impressed by the states' achievements. In looking for state aid to higher education before he wrote in 1890, Frank W. Blackmar found much to report; and while he conceded that the early start-up period often took from 20 to 30 years, and that "full measure" support was still lacking, he was impressed by "wholesome improvements" in the light of experience and the prodding of the first

Morrill Act.[72] In his history of education, published 14 years later, Edwin G. Dexter took the view that the land-grant endowment "makes it certain that no one of them [colleges] can be reduced to absolute penury, and for the most part the states have been generous."[73] From another perspective -- that of the nation's total history -- attainment of such tangible public acceptance in 40 years was no mean achievement. However, in the perspective chosen for this study, the period before 1890, "generous" could have fit few states, by any standard. Wisconsin at last came round to pointing the way among the few after 1876, with its doubling of expenditures per student in the next decade and its budget increase from $150,000 to half a million from 1887 to 1902 (while enrollment rose more than twice as fast).[74] More typical was Arkansas, in which yearly appropriations to the university for the first 15 years averaged under $14,000, with about $6,500 of that for current expenses -- and in which the legislature would not appropriate $25,000 in 1885, when more than half a million was in the treasury.[75]

Another evidence of the slowness of the states to assume responsibility is found in the transition from public charter to public control. The early charters, or legislative authorizations to grant degrees under prescribed governance, did not assure "public" institutions in the control sense any more than in the tax-supporting sense. A clear distinction between private and public was not a legislative objective at the outset. What was publicly launched could be privately sustained. It was up to the trustees. Many of the publicly authorized corporations were essentially private, with self-perpetuating trustees or a mix of privately-nominated and publicly-appointed. The Board of Regents of the University System of Georgia, despite its "public" venerability, did not cease to be self-perpetuating until 1889.[76] Worse yet in Louisiana, the state five times relinquished to private control its claim to college property before public control was at last established in the land-grant institution.[77] How far state action could fall short of state responsibility is shown by a forgotten aside in Illinois history. In 1854, Abraham Lincoln helped dedicate the Springfield headquarters of a state-chartered institution called, "Illinois state university," which his son, Robert, attended erratically. Despite the name's connotation, it meant neither public governance nor public support, merely the legislature's modification of the earlier chartering of an Evangelical Lutheran literary and theological institution. As private support waned, the confusing name was dropped in 1867.[78]

Some pre-land-grant educational history is needed to illuminate this state of affairs. By the time of the Morrill Act, several potent educational forces were firmly in place. The Revolution and independence had separated church and state, with results which Lord Bryce thought most distinguished the New World from the Old. All the newly admitted states incorporated this separation into their constitutions. Thus state-related education now seemed more relevant to the new order, both secular and democratic. This was bolstered by another historical strand: the acceptance of tax-supported schools, at least in theory, in New England by 1820. Horace Mann's ideas of the "great equalizer" and the "balance wheel of the social machinery" were not lost on higher education, in which public aid had been widely accepted and practiced in colonial times.[79] This new fervor for better-fitting institutions was not willing to leave well enough alone. Reform of the existing colleges seemed to be the first step. Therefore, state control was attempted in six of the nine colleges which existed from colonial times, with such control actually assumed in Columbia, Dartmouth, and the University of Pennsylvania. Schemes of social responsiveness ranging from legislative visitation to tight control soon proved that the post-Revolutionary fervor was to be short-lived, a half-century too early. Religious devotion and church supervision gained the ascendancy, with the assiduous fostering of the idea that separation of church and state meant leaving college education wholly to the church.

Dartmouth and New Hampshire set the stage for a choice between the options which had then become clear. Legislative control efforts of 1816 were challenged in the courts, culminating in Marshall's famous Supreme Court decision that the Dartmouth charter was a contract, not to be legislatively abridged under the Constitution. With this encouragement of the non-governmental role, the 1819 decision "contributed in no small measure to checking, for better or worse, the development of state universities for at least a half century."[80] Competition in education was introduced, as in business, free from legislative supervision or control. The thunderous decision was to reverberate throughout the country for decades, starting from Jefferson's opinion that the dead had won over the living.[81] Lines would harden. Options would grow more extreme. In fact, an inevitable remedy was already implicitly suggested. There would eventually have to be new colleges, not reform of the old. Church institutions free from state control suggested the possibility of state institutions free from church control. What could be, but had not been, was implicit in the Dartmouth decision: "That a corporation is established for purposes of general charity, or for education generally, does not, per se, make it a public corporation, liable to the control of the legislature.[82] What could be done was already afoot. After Jefferson and his allies failed on state control at William and Mary, they made anew what they wanted at Charlottesville.[83]

French secularism and republican sentiments generated by the Revolution again arose from dormancy, and after "a half century's winter" the "golden harvests" began to show in the West -- or wherever an educational establishment was not solidly entrenched.[84] As a result, 21 state universities came into existence before the Civil War and the Morrill Act. A sputtering and spotty start had already been made. The wrenching war and its heritage put the new industrial forces in positions of power, gave voice to the neglected classes, and fed the egalitarian yearning for practical and relevant education. It was time for something different, something more responsive. This, coupled with an intense national awareness, set the stage for the new universal application of the old piecemeal granting of public land in aid of higher education. It was destined to put the state-supported and state-controlled university alongside the American college as unique, indigenous American institutions of higher education.[85]

The new land-grant colleges gradually perceived that the price of state control was public support -- and that there was no alternative to paying the price. The two went together -- slowly. The overlapping of old and new was graphically shown in the recruitment of the early presidents from the clergy, who, despite their antecedents, became ardent advocates of different support, different control, and different education. They and other college spokesmen repeatedly reminded the legislatures that state control could not be assumed without tax support. The new colleges which were utilitarian enough to boast of agriculture and mechanic arts were not likely to entrench church governance, but they did not hesitate to include board representation from state agricultural (and/or mining) agencies or agricultural societies. New institutions which prided themselves on being "people's colleges" did not hesitate to include board representation from the public school system, usually the State Superintendent of Public Instruction. These changes greatly helped to usher in trustee appointment by public officials (governor, the supreme court, either house or both houses of the legislature, or combinations) in the gradual replacement of the self-perpetuating board: that is, full state control. Again, it was the story of a frustrated ideal, painful evolution, long delay, and a state role very different from that which we now take for granted.

The problem was most acute where the land-grant funds had been assigned to existing private institutions, such as Yale, Brown, Dartmouth, and Rutgers. There the extremes met. The classical institutions were confronted with the new expectations; state law-makers gave existing colleges a publicly-declared mission but without state support. First, the states did not try; then when they did, they tried on their own terms, which meant support and control combined. Illustrative of this dilemma, both the state of Rhode Island and Brown University were immobilized, neither able to provide the services contemplated by the federal grant. Inevitably, after "the loss of thirty years in the development of its public college," Rhode Island severed the land-grant tie with Brown in 1894 and clearly opted for public control and support.[86]

This confirmed the particular anguish of sorting out the private-public balance in the East, where private education was entrenched. One appraisal held, "In the original thirteen states, then, the results of the interest in state supported, state controlled universities was disappointingly meagre" (sic).[87] Indeed it was the Morrill Act of 1862, with its aid to the older states as well as the new, that revived public higher education in the East, after the Dartmouth Case rebuff, and set it on a new and promising course.[88] Ante-dating the 1862 Act, both Vermont and Maryland had state universities; but they were, despite their names, under private control. As migrants from the East, Kentucky pioneers used seminary grants to found Transylvania, but despite public status and public land endowment, it was Presbyterian-controlled.[89] The federal grants of 1862 replanted and fertilized the public seed, but it still grew slowly. Contorted convolutions over decades rent the fabric of higher education in Maryland, with a succession of institutions, of support experiments, of governing boards, and of modes of trustee appointments until the state at last gained a controlling majority.[90] In Massachusetts, where the legislature not only chartered but supported private colleges, the legislature twice chartered agricultural colleges which the trustees could not sustain.[91] It took a third effort, saved by the Morrill Act, to get a permanent footing, but it was still the trustees' task, albeit under more favorable circumstances.

Whether entrapped or not by accepting the Morrill Act's conditions for the land-grants, all states eventually conceded, however reluctantly and tardily, that state patronage should follow, that the new institution was a child of the state, and that the full faith and credit of the state were involved. This evolution to state assumption of higher educational responsibility accompanied the decline in that strong national interest which was ushered in with the formation of the union. Deflected by rising states rights and decentralist tendencies, the national role had to be an uneasy partnership in which deference and divestiture to the states was assured. State control and state support were public tastes that had to be acquired. Rhetorical ideal and working practice had to be brought together. The federal aid which was once suspect as an unwelcome public charge gradually came to be accepted as a welcome public trust. In fact, the national government's original use of land grants instead of tax-raised appropriations under disputed powers did much to assure the relaxation of potential federal control, with a host of implications, not least of which was each state's ultimate domination of the partnership -- and largely on its own terms. Thus, pacing the stars upon the flag, at least one publicly supported, publicly controlled institution of the land-grant type was eventually assured in every state; but "eventually" was the key. Torn between democratic ideology on the one hand and tax resistance plus vested educational interest on the other, the states needed time. They took it.

Chapter VI

NEGLECTED CONCEPTIONS

Not all of these popular misconceptions about the early history of the land-grant colleges are dead wrong. They had to proceed from some base. Some are attributions of achievements which did eventually come, but only 30 to 50 years later than commonly assumed. Some are derived more from following early rhetoric than discovering early reality. Some ascribe to the colleges what belongs to a combination of institutions and forces, of which the colleges themselves were a part.

Truth and balance also suffer by omission -- or underestimation and neglect. Two grossly neglected historical developments are the early conception and significance of a national system of state-based colleges and the incremental state-by-state upgrading which the humble colleges left in their wake enroute to becoming strong universities.

The federal government has not hesitated to do what it deems in the national interest, where mere constitutional doubt rather than prohibition exists. In higher education, this has spread from the creation of military academies to post-sputnik educational aid in the name of defense. But nowadays, when the states and localities have come to be the educational bulwarks and the Congress goes to such lengths to deny major responsibility (despite the numerous programmic holes which have been punched in the theory), it is difficult to reconstruct from an earlier era the national role and its great impact on educational reform. We have often forgotten that such a role ever existed.

The establishment of a national university was an ideal as old as the republic. It never materialized, but a national network of state-operated institutions did. The nationalizing forces antedated Appomattox and their impact on higher education is nowhere more poignantly portrayed than in the early history of Louisiana State University. It opened as a land-grant seminary in 1856, and it was closed by war in 1861. William Tecumseh Sherman was its first president, beloved and successful in the kind of tragic irony that only civil war can produce. In the address at the cornerstone laying, General G. Mason Graham said that "....this institution is derived from the munificence of the Federal Government of the United States." Therefore, a suitable inscription in marble would be place over the entrance, "thus reminding the youth of the State as they daily pass beneath its portal that this is one of the innumerable and untold blessings which they enjoy from the union of these States." The resulting "love and veneration" would make the union "indissoluble." Five years later, after the polarization of secession, the Board not only closed the seminary but also ordered the breaking up of the marble and its short-lived inscription:[1]

BY THE LIBERALITY OF THE
GENERAL GOVERNMENT
THE UNION
ESTO PERPETUA

Long before the Civil War, the federal government was the expected source of aid for democratic educational reform. The early seminary grants bred pleas for more. State-started institutions soon petitioned Congress for survival support. Paper institutions, such as county agricultural "colleges," turned not to the state and local governments, but to Washington, where petitions were flooding in, years before the Act of 1862.[2] With the coming of secession and war, the heretofore-frustrated nationalists left in Congress asserted a national policy for a national endowment of a national system of state-operated colleges. Politics and wisdom, it so turned out, dictated that the proposed

West Point model, perhaps with Smithsonian direction, should give way to grants which would obligate the states to a national purpose.[3] As the second president of The Ohio Agricultural College said, the Civil War made a nation, a national spirit, and a national idea of education with state obligation; and the "nation itself claims the entire ultimate benefit of her bounty to the states."[4]

The resulting Morrill Act was a masterpiece of non-directive federal aid. It was clear enough to guarantee a state-run college in every state but vague enough to let the college accommodate to local reality, with remarkably flexible guidelines. "The wonder," concluded Edward D. Eddy, "is that so little was fixed," including the possible proscription of classics and the requirement of manual labor.[5] Instead, the Act put national policy behind the "new education" without excluding the old. It wanted agriculture and mechanic arts specifically targeted for attention, but through "such branches of learning as are related" thereto. It was to educate the "industrial classes," but in ways which were "liberal," "practical," and for the "professions." What indeed was missing, one might ask, if legislators and educators wanted it? Yet a clear national intent showed through, a new emphasis, a new clientele, a permanent endowment, and a state commitment to fit into the loosely-drawn national network, or refund the income. Using their options freely, the legislatures and state educational leaders created all kinds of institutions, some maximizing "the leading object" of the Morrill Act and some minimizing it.

Senator Morrill himself was surprised at how much latitude was squeezed out; and he became more and more voluble on what was meant. It is significant that in that volubility, he still more strongly emphasized the national purpose and role. In a seldom-noted speech in the Senate in 1876, he went into detail on a bill to enhance the endowment of "national colleges for the advancement of scientific and industrial education." Note they were national colleges throughout. "Scientific" had replaced "agriculture," because by then he decried the agricultural label as an epithet and an unintended constriction.[6] Since the Constitution had then come to provide universal suffrage by national action, there was a national educational obligation, too, not to "be avoided by the cranky plea that Government has nothing to do with education" or by "cheap non-committalism."[7] He also connected national land resources with national human resources: "Uncomputed numbers, with unknown and uncomputed power, ought not to be suffered so largely to run to waste."[8]

That the new colleges were regarded by their advocates and founders as a national system, or network, is clear. They were the product and bore the marks of national sentiments, national politics, and national policy.[9] Quite significantly, the enabling act provided that an annual informational report should be made by each college to every other college and to the Secretary of the Interior -- both to others, thus serving the system, and to a national educational office, thus symbolizing the system. With the parallel development of the Department of Agriculture, the national system concept in agricultural education, research, and extension was still more tightly formulated. Further cohesion was added by a groundswell of sentiment for a national organization which would bring the pieces together in both fellowship and professional advancement. The "Convention of Friends of Agricultural Education" met in Chicago in 1871, setting in motion six subsequent national meetings which culminated in the formation of the Association of American Agricultural Colleges and Experiment Stations in 1887.[10] With subsequent name changes, this organization promoted a host of interinstitutional objectives and lobbied vigorously for common federal interests. Thus, the colleges, the Department, and the Association made a formidable triad of interlacing communication, cooperation, and potency which has long been the envy of academic and governmental outsiders.

The colleges had a more informal system or network, too. They shared experiences. Nationwide correspondence among educational reformers had given impetus in the beginning. Nationwide correspondence and meetings provided the cement for the national association and for the closer relations with U.S. government officials as described above. Presidents visited and consulted other land-grant presidents in the older institutions. Trustees and college officials visited other places for ideas, plans, curricula, and faculty and presidential recruitment (with Wisconsin, Illinois, Minnesota, Vermont, Cornell, Ohio, and Massachusetts all seeking heads in 1867).[11] Ezra Cornell got Jonathan Turner's ideas.[12] Arkansas built its Old Main directly from the Illinois plans.[13] Colorado Agricultural College was slavishly patterned after the Michigan Agricultural College and Michigan law.[14] The national network was a network of common philosophy and sentiment also.

If one interpretation of American educational evolution after the Civil War held that there was no "great central idea," but at bottom something "formless, chaotic, and full of contradictions," as historian Willis Rudy has written,[15] it could accurately be said that the "new education" institutions came closer to a "great central idea" than any others. They also had a keen and proud awareness of what they did hold in common across the nation.

What was the common core held nationwide, however much individual colleges might differ from state to state? The few legislated requirements dealt with mission and included what was to be new in addition to what could optionally be continued: that is, agricultural and mechanic arts education and military training, in addition to traditional classical education. Military training best symbolized the national aspects again. It was not mentioned in the early Morrill efforts but was added understandably in the heat of battle, in response to the thought-to-be-obvious lessons of the North-South conflict. This was the national answer to a national need -- even the preservation of the union. Beyond these minima, the core is harder to find and the frayed-out extremities make the search more elusive.

The philosophical core mattered most. New tasks were clearly implied. The intended beneficiaries were to be the "industrial classes," which meant something different from today's meaning, yet was a rallying cry which is now in need of better understanding. Two land-grant institutions, Illinois and Arkansas, initially bore the proud words "Industrial University" after the state's name. The Industrialist was the official journal of Kansas State. "Industrial" was also applied to classes, education, occupations, movements. It was elucidated in countless presidential speeches. That it meant a new group to be educated individually and advanced collectively is found in the language of such early advocates as Jonathan Baldwin Turner and Senator Morrill. Turner divided the common 95% and the learned 5% into two classes, the industrial and the professional (i.e., law, medicine, and the ministry) and for a decade worked assiduously through an "Industrial League" to give the one the opportunities of the other. He and his colleagues repeatedly identified their intended educational objects as "laborers," "working classes," "masses," "producers," and "hand-workers as well as head-workers."[16] One president said "industrial" meant laborers, merchants, manufacturers, builders, engineers, and bankers.[17] Another included editors, veterinarians, masons, carpenters, tailors, bookkeepers, jewelers, blacksmiths, liquor dealers, and gunsmiths, with some confusion when he added doctors and ministers.[18] A college dean distinguished between the ordinary occupations and those dependent on mental acquisition "without regard to occupation."[19]

An examination of early dictionaries shows that in the early Webster's "industry" meant nothing but diligence. Worcester's Universal and Critical Dictionary of the English Language, 1854, defined "industrial" as "performed by manual labor; laboring," with the addition of the meaning of "occupation" in the 1888 edition. Given the lag in recording common usage, it seems clear that "industrial classes" as applied to the new colleges meant all those in the most populous occupations characterized by manual labor. There was nothing paradoxical about including agriculture: in fact, it was the most populous. In any case, "industrial classes" was a catch-all, inclusive rather than exclusive. It defined "toil" and "common pursuits of life" so as to include just about everybody, with attention fixed on those occupations and workers left out by the traditional collegiate concentration on the learned professions. Therefore, "masses," "common," "democracy," and "the people's" were a part of the same new vocabulary. The spirit was conveyed and components identified by the historian of Utah State: "Upon the sagebrush...the founders laid the cornerstone of a building to be used for the education of rural western democracy -- a rural college for the 'masses'."[20] Or as the president of The Ohio Agricultural College said at his inaugural in 1874: "The crown of liberal culture is no longer the birthright of a few -- it is set within reach of all.... bringing glad tidings to the poor."[21] This democratizing dimension of the new national conception, with its derivation from and contribution to an open society, can hardly be overstated, but it already has been treated extensively by Nevins, Ross, and Curti and Carstensen.

All this meant that as objects of educational concern, the practical occupations were being added to the learned professions. The Rogers plan for a polytechnic in Boston (authored by the first President of the Massachusetts Institute of Technology) gave specific attention to a "class of operatives" and used and overused the words "practice," "practised," and "practical."[22] A trustee at Wyoming wanted graduates who would "know how to do something, something the world wants done."[23] This line of thought bred both laudable and strange results, from required manual labor for students to great reliance on laboratory techniques and applied research. Ezra Cornell differed from President Andrew White in wanting all students to have some mechanical means of livelihood, preferable in a shoe factory which would also help support the new institution.[24] All spokesmen agreed that routine labor, heretofore beyond the college pale, should be lifted up to such dignity as "too obliterate the supposed superiority of the so-called 'learned professions'."[25]

The educational mission which was to include what was related to the leading objects (agriculture and mechanic arts) -- and what was practical, new, and consciously different -- put great store by science. Many of the new college spokesmen said science was the essence of their movement. Senator Morrill said the same. Daniel Coit Gilman spoke of "Our National Schools of Science," and the President of Colorado Agricultural College thought "No student should be prevented from becoming a scientist."[26] One college seal told the story, "Iowa State College of Agriculture and Mechanic Arts -- Science with Practice."[27] President White started Purdue on the sciences as "the leading element," with the "liberal arts for the industrial classes" to be assured by subordinate attention to the traditional academic fare and with agriculture and engineering to be added as needed and as could be afforded.[28] Already anticipating the Morrill Act, Michigan Agricultural College set about quite deliberately in 1857 to distinguish itself from its sister institution in Ann Arbor "in the application of modern science to the practical business of life."[29] Thus for 20 years after the land-grant infusion, catalogs said the first MAC purpose was "To impart knowledge of science and its application to the arts of life."[30] Science was not an unpracticed or unattended discipline in higher education, but it was certainly not central and not generally welcomed as an equal -- even in the special scientific schools in the older universities of the East. There was a point to their being special, usually connoting some sanitizing separation from the established order. The change in the land-grant colleges was the putting out of the welcome mat, the eager receptivity, the according of a central role. Science was the new faith. Field work, observation, and laboratory use came in to compete with, to combine with, or to replace the daily lessons and reliance on recognized authorities. The system in which the faculty acted "to know and to enforce all of the right answers rather than to know or to ask any of the right questions"[31] was first the rival to be equalled and then the enemy to be outdone. To the question posed in the philosophical tension between Harvard and the Massachusetts Institute of Technology in the latter's formative years -- Can science rank with and therefore, for some students, take the place of the classical subject matter for undergraduate education? -- the new colleges had a ready answer, as an article of faith: Yes.[32]

The national educational conception, with a "central idea," became fuzziest on the question of whether the curricular mix should yield general or specialized, broad or narrow, results. That question is sufficiently universal and timeless to defy any ready or definitive answer, then, now, or in the future. It is worthy of note here, however, that the land-grant colleges were, in the main, not the specialized, narrow-gauged institutions connoted by "cow college" or even the "A & M" handle.[33] Some of the separated new land-grant institutions went to great lengths to distinguish themselves from the established state university, where one existed. When this was coupled with the almost-universal criticism from some quarters that the "new" was not new enough, some extremes did occur. With Populist pressure for more and more usefulness, for more manual and less mental, Kansas State came to look like a trade school and prided itself on the manual skills and how-to-do-it courses. This was not the country-wide picture. As we have seen, in the already established state universities, the Morrill Act additions sometimes got short shrift and generally matured under indifference and still-lingering devotion to the traditional. That characterized the oldest, like Missouri, Wisconsin, Minnesota, Georgia, and Vermont. The impact was less, and also relatively short-lived, where the land-grant endowment went to existing private institutions, excepting in the young Cornell, which was hardly rooted yet. Even in the new Western states, the narrow approach fared badly. Colorado State's first president did what he could for the old ideas, even bootlegging in his own Latin class, without fee and at irregular hours; but in a year he capitulated, saying as he departed, such colleges were "experiments at best, and experiments, I must confess, a little out of my line."[34]

Perhaps the best evidence of resistance to the narrow view is the muscular history of the early grassroots opposition to the new colleges as traitors to farmers and artisans and as high falutin backsliders to classical education.

The Grange, the Populists, the agricultural societies and journals, and other spokesmen for the lowly waged warfare with the fury of love spurned. But presidents and faculties kept resisting, and the presidents kept emerging out of the classics and the clergy. Making the broader point with agriculture, they said the purpose was "not to teach how to plow, but the reason for plowing at all..."[35] Eventually they would come to the Great Synthesis which held that every student needed two kinds of education rolled into one -- education for work and education for living.[36] They all came to accept the "new" as part of an appropriate institution, not the whole of it; and however truncated or specialized the college began, it could not meet its state-serving mission without becoming increasingly comprehensive. Not surprisingly, agricultural-sounding or industrial-sounding names of colleges began to be changed, often in the first decade, to signify an untrammeled mission, both "higher and broader," as Senator Morrill himself had said;[37] and where the names were not changed, the organization and curriculum were. The spirit, far more often than not, favored "filling up the whole idea of Congress," as an Ohio trustee said. If this national conception intended by Congress was not clear, it certainly was not restrictive.

The narrow role lost out in humor, too. The mother of a bright farm boy told a Cornell professor, "His father wants him to go to an agricultural college, but I want him to get an education."[38] Another critic saw no humor in complaining about the creation of an "educational" rather than "agricultural" institution.

Finally, it should be noted again that the national influence took tangible form, as noted in the preceding chapter, in the dominant financing of the early land-grant colleges. As long as possible, most of the states tried to live off the land-grant proceeds, hoping to provide not much more than the buildings, as the law required. While the state fraction of the total support steadily mounted, the national dominance was not overcome until the turn of the century. In their history of agricultural education, True and Crosby reported that in 1903 land-grant proceeds and federal appropriations under the 1890 Act came to just under $2,000,000, whereas the states appropriated slightly less than $2,500,000 for operating purposes.[39] In fact, the various acts of the national government supplied more than half of the income for Michigan Agricultural College from its founding to 1913.[40] Speaking of the 1880's, Tennessee's historian wrote that he wanted "to correct an impression often, though erroneously, entertained, that the State, in some way, contributed to the support of the University, and that its appropriation is due to the generosity of the State instead of the United States."[41] Likewise, as late as 1904, the University of Nevada derived approximately three-fourths of its support from the "liberal aid" of the national government.[42]

However, time shifted the balance against too much "nationalizing" as the Civil War receded. Senator Morrill, overtaken by political realities, eventually dropped "national" from his legislative proposals for further aid to his colleges and contented himself with the national effect from a network of state-based, federally-aided institutions. While the balance thus shifted and the state role became much stronger, the national role left indelible marks. These and their history should not be forgotten or minimized. Some such national impetus, intellectually driven by a host of precedents and operationally driven by land grants, could alone have produced such a nationwide crop of colleges in so short a time. Nothing less unified could have brought together the scattered tinder and set the spark in every state -- repeat, in every state -- for an irreducible beginning toward the ideals of democratic and relevant public higher education -- relevant to individual, to place, to profession, and to society. The nationwide impact on institutions, on states relating thereto, and on national opportunities coming therefrom is the enduring heritage. Recent and ongoing efforts in some Washington circles to wipe out the last vestiges of any special historic federal relation to these colleges (i.e., via funding) is a reminder of how far we have come, not how little it ever mattered. The most permanent and potent residue of the still-nationwide network is found in the formidable array of intellectual manpower devoted to agricultural instruction, research, and extension by the joint endeavors of state land-grant universities, the federal Department of Agriculture, and the sustaining governments, from the federal to county levels. Neither this nor the related universities would have "happened" without the national role -- first the ideal of a national institution (university, college of agriculture, or Smithsonian or West Point model) and then, next best, the ideal of a national network of state-based institutions.

In The American Commonwealth, Lord Bryce thought most of the state universities, or at least the Western ones, were "true universities rather in aspiration than in fact."[43] While he was immensely impressed by spirit, innovation, and progress, counting these more precious than money, he was appalled at the gap between the best and the worst institutions, and at the conferring of some degrees which might merely "have a certain social value." "This does not mean much," he confessed, "but it is better than nothing."[44] There he grudgingly put his finger on the kind of pragmatic incrementalism which became one of the greatest, if not the greatest, contributions of the land-grant colleges to the upgrading of higher education in America. In the beginning, in state after state, the new college was not much, but it was better than nothing -- and often better in the newer states than any alternative. This is the second major matter of historical neglect which requires more attention.

Even in those days when such new colleges, as well as most established ones, were running preparatory schools to undergird some pretense of university work, they were locked into the up-grading processes whereby public school systems came into being. Sometimes competitive and preemptive in relations with emerging high schools, their ultimate interest nevertheless lay in moving up to full collegiate performance; and they did so as soon as they could cut the Gordian knot of how to elicit acceptable high schools while providing a substitute. They built public school systems from the top down. Many colleges began before there was even a respectable number of elementary schools.[45] Many of the college presidents assiduously worked to make the college the leader, teacher-supplier, and upward-pulling magnet of the whole educational system of the state; and many found careers wending in and out of the upper layers of the emerging public-school systems and their normal schools. Nebraska's Chancellor said to a state teachers' convention: "I see the common school stuck in the mud and the university suspended in the air. If we are to have a system of education, the word is 'Close up'."[46]

The modest incremental road to higher standards was clearly envisioned by President Chadbourne of the University of Wisconsin. In place of telling students what they ought to do, he said: "We must take them as they are and do the best we can with them."[47] The obverse for the student was stated by an alumnus who advised his successors 30 years after Nevada's founding, "If you can not get what you want, take what you can get and keep on trying."[48] President Minor of the Virginia Agricultural and Mechanical College spelled out the components in 1878: a curriculum dictated by experience, students taught from whatever status, and graduation standards "fixed not to conform to that of other Colleges, but to such attainments as our plain poor youths coming from the public schools could with diligence attain to in the course of three years or four."[49] For these, the problem was to encourage them "to seek the honour of a diploma not placed so high as to be beyond their reach."[50] This widely-practiced egalitarian philosophy among the land-grant colleges exacted a price. Nevada's admission level rose "by about two and one-half years" when it finally reached its university ideal.[51] The New Hampshire College of Agriculture and Mechanic Arts, as a part of Dartmouth College at the beginning, boasted of taking youth where "shop, farm and common school leave them" but the entrants fell short of Dartmouth's standards by from three to five years, and short of the standard of its new scientific branch, the Chandler School, by two years.[52] The target was "good moral character and a mastery of the branches usually taught in our common schools."[53] Starting with what the student needed, not with some arbitrary institutional standard, fit both philosophy and survival. This prompted one state university to boast that while it would cater to the loftiest style of culture, it could adapt itself to the lowest.[54] No wonder the fledgling Rhode Island institution found it hard to reconcile elevation to academic respectability with serving the largest number of local youth.[55] The author of the charter of the University of Nebraska had difficulty explaining to legislators the performance standards befitting different educational institutions and said later, "my prime objective was to get the institution at work as early as possible with as high a grade as the finances would permit, and then improve upon the general foundation as experience warranted or indicated modification."[56] No better statement could portray pragmatic incrementalism -- to get to work as soon as possible, to reach as high a grade as could be afforded, and to improve by experience. The ever-upward ideal was the constant and crucial factor. But even under this lofty ideal which aspired to better, the early Nebraska regents were saying, "There is no pupil in the State, however remote from high schools he may be, who may not gain entrance to the University."[57] In the adjacent state of South Dakota, a reminiscing member of the first faculty of the land-grant college proudly retorted: "Not much of a college, you say? It wasn't, but it was a beginning."[58] Missouri's first president, John H. Lathrop, unique in also later heading Wisconsin and Indiana University, said it well: "Let us not be unwisely impatient of results, nor despise the day of small things."[59] This frontier philosophy before the Morrill Act served well that Act's beneficiaries, which were destined to make the small things into great.

Not surprisingly, the national aspect and the incrementalism of the land-grant colleges found some means of mutual reinforcement. The national association formed by such colleges immediately launched a campaign to raise standards. In 1896 it was prepared to urge that admission be confined to the collegiate level, abandoning the preparatory. This would not be an affront to democratic proclivities -- "moreover, a certain community of interest makes it the duty of each college to protect....its own reputation for educational work and the reputation of its sister institutions."[60]

Although less often mentioned, incrementalism was also driven by faculty development as well as by the lifting of student admission standards. An alumnus of Nebraska remembered that although his early teachers were "not men of genius, they were all....fully abreast with the development of the young State, and better prepared, perhaps, to do the work then needed than men of more brilliancy and more erudition would have been."[61] The incremental essentials are again present: relevance and timeliness, or being sensitive to state development and doing the work then needed.

The hope of incremental salvation sprang eternal in the land-grant colleges. Good was not to be measured in the number of students who came nor who attained graduation. Remember the primitive frontier beginning. Remember the untapped talent. Remember what we can become, not what we have. Remember what time has done for Europe and can surely do for America. The President of the University of Vermont had long ago said that "the difference may justly be ascribed not to the imperfect forms of our social institutions so much as to their imperfect development...."[62] Besides, whatever was wrong and "uncongenial to literary pursuits or studious life, these are too often incident to new institutions starting in a new country, and which, when they pass away, like certain diseases of the human body, do not make a second attack." So said an amply-experienced president.[63]

This philosophy of racheting forward, step by step, opportunity by opportunity, was put into practice also. Not only was the public school system perfected, but the collegiate-grade work was spread into a broader curriculum, professional schools and liberal arts education were put into balance, research and non-book learning were embraced, the material instruments of learning (buildings, libraries, laboratories) burgeoned, only the "best" faculty became "good enough," alumni successes proved that trained intelligence was a dormant resource in every state, intercollegiate rivalry and emulation nationwide added an upward impetus -- until each state had a full-fledged comprehensive university (or two or more if a separate state university already existed). This spreading the educational good around, this doing what could be done toward an unswerving ideal, was a monumental achievement of the initial national policy and subsequent state support which flowed from the Morrill Act of 1862.

When only a glimmer of the future had yet become apparent, the House committee on education reported in 1890 that the land-grant colleges "have turned out a body of men who, as teachers, investigators, and leaders of industry, rank well up with the same class of men anywhere in the world," while at the same time bringing older institutions "more closely into harmony with the spirit and purpose of the age."[64] This was only a modest forerunner of what was still ahead for the step-by-step incrementalism which was to change the face of American higher education -- its base particularly, but also its breadth and its height, beginning in each state and culminating in an enhanced national profile. If the new colleges did have "a very dull childhood," they had good adult years ahead.[65] The futuristic feature was a determining factor. The dominant ideals always offered more for the future than for the present, and not least so in matters intellectual. Nonetheless, as historian S. Willis Rudy concluded, the educational change bred in the three decades near the end of last century "has no equal in the history of human learning."[66]

The Morrill Act set change in motion both by its specificity and by its generality. The specificity of the "leading object" of agricultural and mechanical arts bred professional appendages for what was, by specific language, not excluded by the generality -- the traditional classical and liberal arts core. Therefore, beyond anyone's vision at the time, the new "colleges" were destined to become very much unlike the old ones. They were all to become comprehensive universities. That was inherent in their statutory amplitude and in their linkage with public educational aspirations and the slow-but-eventually-sure public capacity for support. They differed from the denominational liberal arts college in another way, even if contemporaneous in creation:

they were not foster children of the East but true products of the frontier, both intellectual and geographical.[67] When pressed by provincial forces, they could appeal to their national origins and obligations. When concerned by overarching nationalism, they could point to their state-based relevance which, in composite, best served a nation of continental dimensions.

As these chapters have served to remind, while correcting some misconceptions, the historical adaptation of the "new education" has been remarkable. It has left something different and enduring -- and something which is no longer confined to institutions called "land grant."

FOOTNOTES

All references to author, without title, are as presented in "Institutional Histories" in the bibliography, pages 109-115.

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11. Solberg, 18.

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13. Perry, 60.

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28. Pyre, 140.

29. Dunaway, 21, 42.

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36. Stephens, 170.

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39. Dunaway, 25, 67, 135-136.

40. Caswell, 9; Cary, 63, 73.

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42. Doten, 33, 41, 164.

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72. McCormick, 109.

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